Mr. G. A. Boulenger, F.R.S., read an account of the Fishes obtained by the Congo Free State Expedition, under Lieutenant Lemaire, in Lake Tanganyika, in 1898. Ten new species were described, of which three were made the types of new genera.

This paper will be printed in full in the Society's 'Transactions.'

The following papers were read :—

1. Notes on a Second Collection of Reptiles made in the Malay Peninsula and Siam, from November 1896 to September 1898, with a List of the Species recorded from those Countries. By Stanley Smyth Flower, F.Z.S., 5th Fusiliers.

[Received April 14, 1899.]

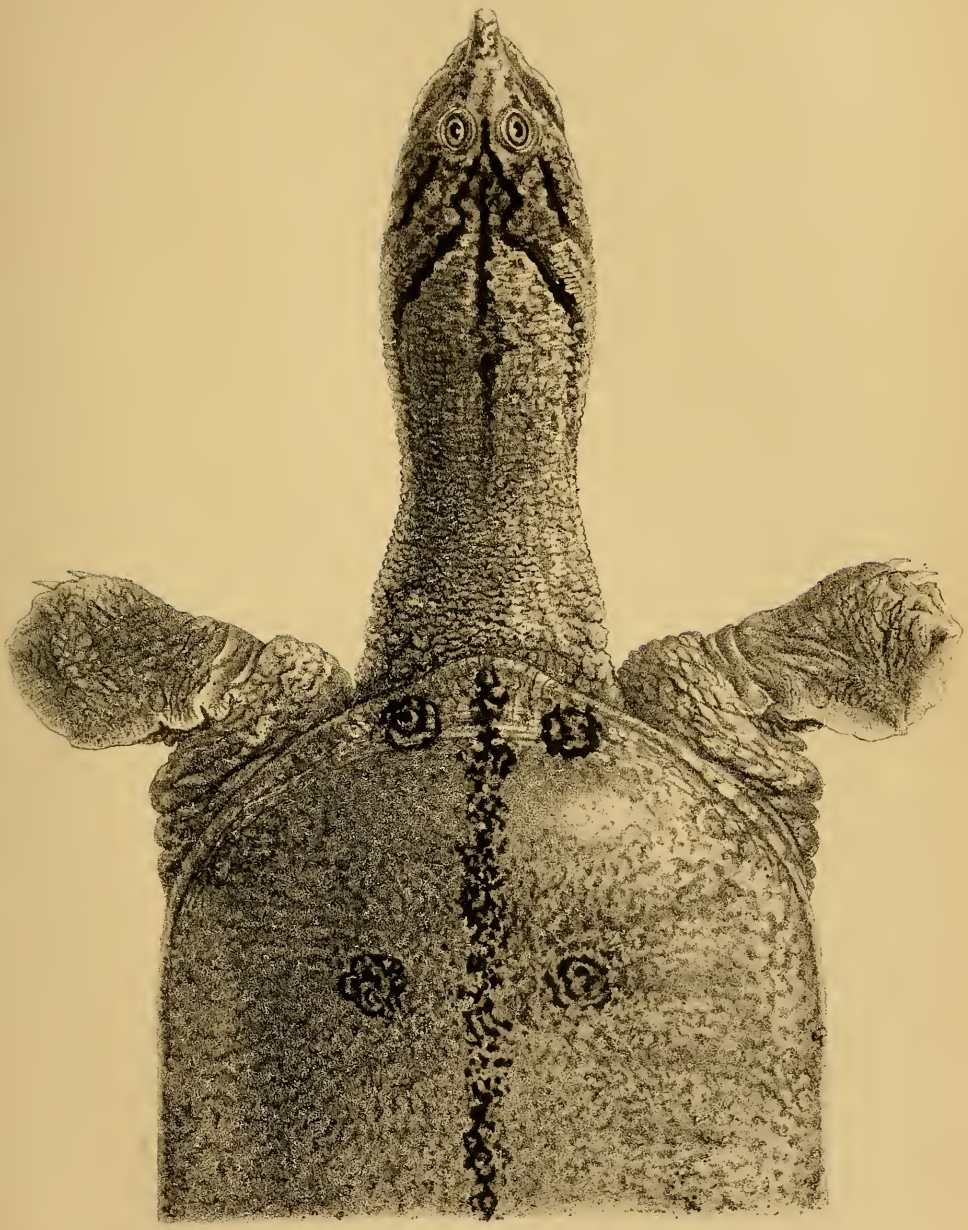
(Plates XXXVI. & XXXVII.)

Part I.—Introductory.

Malay Peninsula Reptiles.—In the Proceedings of this Society for 1896, pp. 856–914, there appeared a paper giving an account of the Reptiles and Batrachians that I had collected in the Malay Peninsula from March 1895 to April 1896, and a list of the species recorded from that neighbourhood by Cantor, Stoliczka, and others. That list included 176 species of Reptiles, of which 9, viz., *Dermochelys coriacea*, *Hardella thurgi*, *Cyclemys dhor*, *Tropidonotus subminiatus*, *Macrocalamus lateralis*, *Hypsirhina indica*, *Hydrophis nigrocinctus*, *Aipysurus edyouxi*, and *Amblycephalus lævis* were of doubtful occurrence in the region. In the present list 3 of the doubtful species are recorded for certain, viz., *Dermochelys coriacea*, *Macrocalamus lateralis*, and *Aipysurus eydouxi*; 9 more species are added, viz., *Geoemyda grandis*, *Testudo elongata*, *Gymnodactylus marmoratus*, *Mabuia rugifera*, *Lygosoma maculatum*, *Zaocys fuscus*, *Coluber tæniurus*, *Hypsirhina bocourtii*, and *Hydrophis gracilis*; *Gonatodes penangensis* becomes a synonym of *G. affinis*; and the names of *Hemidactylus gleadovii* and *Lygosoma jerdonianum* are changed to *H. brookii* and *L. atrocostatum* respectively: thus making a total of 184 species.

Only one genus, *Macrocalamus*, is peculiar to the Peninsula, and 6 species, viz., *Gonatodes affinis*, *Lygosoma singaporense*, *Cylindrophis lineatus*, *Macrocalamus lateralis*, *Calamaria albiventer*, and *Hypsirhina indica*.

Siamese Reptiles.—So far as I am aware, only one paper has yet



P.J.Smit del. et lith.

Mintern Bros. imp.

TRIONYX SUBPLANUS.

appeared giving a list of the Reptiles of Siam[1], most of our knowledge of which is from the collections made by M. Mouhot forty years ago; so we have to turn to that invaluable work, Mr. Boulenger's 'Catalogue of the Reptiles' in the British Museum to get an idea of our present knowledge of the herpetological fauna of the country, and in the seven volumes we find 85 species mentioned, to which 21 more can now be added, viz., *Batagur* sp. inc., *Chelone mydas*, *Chelone imbricata*, *Thalassochelys caretta*, *Pelochelys cantoris*, *Phyllodactylus siamensis*, *Gehyra mutilata*, *Draco volans*, *Calotes microlepis*. *Calotes emma*, *Lygosoma maculatum*, *Lygosoma melanostictum*, *Lygosoma bowringii*, *Typhlops albiceps*, *Typhlops floweri*, *Acrochordus javanicus*, *Coluber radiatus*, *Dipsadomorphus dendrophilus*, *Hydrophis obscurus*, *Enhydris hardwickii*, and *Doliophis bivirgatus*: thus making a total of 106 species.

Only one genus, *Prymnomiodon*, is peculiar to Siam, and 13 species, viz., *Phyllodactylus siamensis*, *Acanthosaura capra*, *Acanthosaura coronata*, *Physignathus mentager*, *Mabuia longicaudata*, *Typhlops siamensis*, *Typhlops schneideri*, *Typhlops albiceps*, *Typhlops floweri*, *Prymnomiodon chalceus*, *Lycodon laoensis*, *Hypsirhina jagorii*, and *Amblycephalus maryaritophorus*.

Boundary.—It is impossible to divide the fauna of Siam from that of the Malay Peninsula, as the northern part of the Malay Peninsula forms what is known as "Lower Siam." Zoologically so little is known of this tract of country that we cannot say where the fauna of Siam (*i. e.* the neighbourhood of Bangkok and the Menam Valley) stops and that of British Malaya commences, or whether the two gradually merge into each other, as seems probable.

Imperfection of present knowledge.—Although Günther in 1864 (Reptiles Brit. Ind. p. ix) wrote of the Malayan Peninsula and Siam, "this belt of land is well explored," and Stoliczka in 1873 (Journal Asiatic Soc. Bengal, vol. xlii. ii. p. 112) wrote: "The present list, in connection with that of Drs. Cantor, Gray, and Günther, and my own published in 1870, may be considered as fairly completing the number of reptiles and amphibians inhabiting Penang and the neighbouring Wellesley Province," I venture to think that a very great deal remains to be done in this part of the world: no one has yet collected over the greater part of the area of either the Malay Peninsula or Siam, and particularly the fauna of the many mountain-ranges requires investigation.

The great variety of Tortoises, 23 species, inhabiting this region is remarkable, and the curious local distribution of species with practically similar habits, when fully worked out, might give very interesting results.

The natural distribution of the Malayan Geckoes it is almost too late to be able to trace: certain species apparently are yearly extending their area, unconsciously taking advantage of and following the march of civilization, while other species, less

[1] Günther. "On the Reptiles of Siam," P. Z. S. 1860, pp. 113–117.

Part II.

TABLE OF SPECIES, *showing the Relationship of the known Fauna of the Malay Peninsula and Siam to that of neighbouring Countries.*

Consecutive Number.	Nominal List of Species of Reptiles known to occur in Siam or the Malay Peninsula.	Other Countries to the Westward.	India.	Ceylon.	Burma.	Nicobars.	Andamans.	China.	Annam.	Cochinchina.	Cambodia.	Siam (proper).	Lower Siam.	Malay Peninsula.	Sumatra.	Islands round Sumatra.	Java.	Natunas.	Borneo.	Celebes.	Philippines.	Lesser Sunda Is.	Moluccas.	New Guinea.	Australia.	Other Countries to the Eastward.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
1	Dermochelys coriacea (*L.*)	Atlantic Ocean.	...	...	+	...	...	...	...	...	...	...	...	+	...	...	...	...	...	...	...	...	...	...	...	Pacific Ocean.
2	Platysternum megacephalum *Gray*	.....	...	...	+	...	...	+	...	...	...	+	...	+	...	...	...	...	...	...	...	...	...	...	...	
3	Callagur picta *Gray*	.....	...	...	...	...	...	...	...	...	...	?	...	+	...	...	...	..	+							
4	Batagur baska *Gray*	.....	+	...	+	...	...	...	...	...	...	...	...	+												
5	Hardella thurgi *Gray*	.....	+	...	...	...	...	...	...	...	...	...	...	?												
6	Damonia subtrijuga (*Schleg. & Müll.*)	.....	...	...	...	...	...	...	...	...	+	+	...	...	...	...	+									
7	Bellia crassicollis (*Gray*)	.....	...	...	+	...	...	...	...	...	...	+	+	+	+	...	...	...	+							
8	Cyclemys platynota *Gray*	.....	...	...	+	...	...	...	...	...	...	...	...	+	+	...	...	...	+							
9	,, dhor (*Gray*)	.....	+	...	+	...	...	...	...	...	+	+	...	+	...	+	+	...	+							
10	,, mouhotii *Gray*	.....	...	...	Cachar	...	...	...	...	...	...	+	+	+												
11	,, amboinensis (*Daud.*)	.....	...	...	+	...	...	...	...	...	...	+	+	+	...	...	...	...	+	+	+	...	+			
12	Geoemyda spinosa *Gray*	.....	...	...	+	...	...	...	...	...	...	...	...	+	+	...	...	...	+							
13	,, grandis *Gray*	.....	...	...	+	...	...	...	...	...	+	+	+	+	...	...	...	...	+							
14	Testudo emys *Schleg & Müll.*	.....	...	...	+	...	...	...	...	...	...	+	...	+	+	...	...	...	+							
15	,, elongata *Blyth*	.....	+	...	+	...	...	...	...	...	+	+	...	+												
16	Chelone mydas (*L.*)	Atlantic Ocean.	+	+	...	...	...	+	...	...	...	+	...	+	+	...	...	...	...	...	...	.	..	...	+	Pacific Ocean.
17	,, imbricata (*L.*)	Atlantic Ocean.	+	+	...	...	...	+	...	...	...	+	...	+	...	...	...	...	...	+	...	...	+	...	...	Pacific Ocean.
18	Thalassochelys caretta (*L.*)	Atlantic Ocean.	+	+	...	...	...	...	...	...	...	...	...	+	+	...	+	...	+	+	+	...	...	...	+	Pacific Ocean.
19	Trionyx subplanus *Geoffr.*	.....	...	...	+	...	...	...	...	...	...	...	...	+												
20	,, hurum *Gray*	.....	+	...	...	...	...	...	...	...	...	...	...	+	...	...	+	...	+							
21	,, phayrii *Theob.*	.....	...	...	+	...	...	...	...	...	...	...	...	+	...	...	+	...	+							
22	,, cartilagineus (*Bodd.*)	.....	...	...	+	...	...	...	...	...	+	+	...	+	...	...	+	...	+							
23	Pelochelys cantoris *Gray*	.....	+	...	+	...	...	+	...	...	...	+	+	+	...	...	...	...	+	...	+						
24	Tomistoma schlegeli (*S. Müll.*)	.....	...	...	...	...	...	...	...	...	...	...	...	+	...	...	...	...	+							
25	Crocodilus siamensis *Schneid.*	.. ..	...	...	...	...	...	...	...	...	+	+	...	+	...	...	+	...	+							
26	,, porosus *Schneid.*	.....	+	+	+	...	...	+	...	...	...	+	+	+	+	...	+	...	+	+	+	+	...	+	+	Fiji, Solomon Is.
27	,, palustris *Lesson*	Baluchistan.	+	+	+	...		...	...	..	...	...	...	+												
28	Gymnodactylus marmoratus (*Kuhl*)	.....	...	...	...	...	...	...	...	...	...	...	...	+	+	...	+	...	+							
29	,, pulchellus (*Gray*)	.....	?	...	+	...	...	...	...	...	...	...	...	+												
30	Gonatodes kendalli (*Gray*)	.....	...	...	...	...	...	...	...	...	...	...	...	+	...	...	...	...	+							

31	Gonatodes affinis (*Stol.*)	.....	...	...	...	...	..	...	...	...	...	...	...	+														
32	Æluroscalabotes felinus (*Gthr.*)	.....	...	..	...	...	...	...	...	...	...	...	...	+	...	...	...	...	+									
33	Phyllodactylus siamensis *Blgr.*	.....	..	...	...	...	...	...	...	...	...	+																
34	Hemidactylus frenatus (*Schleg.*)	St. Helena, Somali, Mauritius.	+	+	+	...	+	+	...	...	+	+	+	+	...	+	+	..	+	+	+	+	...	...	+			
35	„ brookii *Gray*	Tropical Africa	+	+	+	...	...	+	...	...	...	...	...	+	...	...	...	...	+	...	...	+						
36	„ depressus *Gray*	.....	...	+	...	...	...	...	...	...	...	...	...	+														
37	„ leschenaulti *D. & B.*	.....	+	+	...	...	...	...	...	...	...	...	...	+														
38	„ coctæi *D. & B.*	.....	+	...	...	...	...	...	...	...	...	...	...	+														
39	„ platyurus (*Schneid.*)	.....	+	+	+	...	...	+	...	...	+	+	...	+	...	...	+	...	+	+	+	+						
40	Mimetozoon craspedotus (*Mocq.*)	.....	...	...	...	...	...	...	...	...	...	...	...	+														
41	Gehyra mutilata (*Wiegm.*)	Seychelles, Mascarene Is.	...	+	+	...	...	...	...	...	...	+	+	+	+	...	...	...	+	+	+	+	...	+	...	Western Mexico.		
42	Lepidodactylus ceylonensis *Blgr.*	.....	...	+	+	...	...	...	...	...	...	...	...	+	...	+	+	...	+									
43	„ lugubris (*D. & B.*)	.....	...	...	...	...	...	...	...	...	.	.	...	+	...	Bintang	...	...	...	+	...	...	+	+	...	Polynesia.		
44	Gecko verticillatus (*Laur.*)	.....	+	...	+	...	...	+	+	...	...	+	...	+	...	...	+	...	...	+	+	+						
45	„ stentor (*Cant.*)	.....	...	...	+	...	+	...	...	...	...	.	...	+	+	...	+	...	+									
46	„ monarchus (*Schleg.*)	.....	...	+	...	...	...	...	...	...	...	...	...	+	+	+	...	...	+	+	+	...	+					
47	Ptychozoon homalocephalum (*Crev.*)	.....	...	...	+	...	...	...	...	...	...	...	...	+														
48	„ horsfieldi (*Gray*)	.....	...	...	...	...	...	...	...	...	...	...	...	+														
49	Draco volans *L.*	.....	...	...	...	.	...	...	...	...	...	...	+	+	+	+	+	...	+									
50	„ maculatus *Cantor*	.....	...	...	+	...	...	...	...	Pulo Condor	+	+	...	+														
51	„ fimbriatus *Kuhl*	.....	...	...	...	...	...	...	...	...	...	...	...	+	+	...	+	...	+									
52	„ quinquefasciatus *Gray*	.....	...	...	...	...	...	...	...	...	...	...	...	+	...	...	...	...	+									
53	„ tæniopterus *Gthr.*	.....	...	...	+	...	...	...	...	...	...	+																
54	„ melanopogon *Blgr*	.....	...	...	...	...	...	...	...	...	...	...	...	+	...	...	...	+	+									
55	Aphaniotis fusca *Peters*	.....	...	...	...	...	...	...	...	...	...	...	...	+	...	...	...	+	+									
56	Gonyocephalus herveyi *Blgr*	.....	...	...	...	...	...	...	...	...	...	...	...	+	...	...	...	+										
57	„ borneensis (*Schleg.*)	.....	...	...	...	...	...	...	...	...	...	...	...	+	...	...	...	...	+									
58	„ grandis (*Gray*)	.....	...	...	+	...	...	...	...	...	...	...	...	+	+	+	...	...	+									
59	Acanthosaura capra *Gthr.*	.....	...	...	...	...	...	...	...	...	...	+																
60	„ armata *Gray*	.....	...	...	+	...	...	..	...	+	...	+	...	+														
61	„ coronata *Gthr.*	.....	...	...	...	...	...	...	...	...	...	+																
62	Calotes cristatellus (*Kuhl*)	.....	...	...	+	...	...	...	...	...	...	...	+	+	+	+	+	...	+	+	+	Timor Laut.	+					
63	„ microlepis *Blgr*	.....	...	...	+	...	...	...	...	...	...	+																
64	„ versicolor (*Daud.*)	Afghanistan, Baluchistan.	+	+	+	...	...	+	...	...	...	+	+	+														
65	„ emma *Gray*	.....	...	...	+	...	...	...	...	...	...	+																
66	„ mystaceus *D. & B.*	.....	...	+	+	+	..	...	...	...	+	+																
67	Physignathus mentager *Gthr.*	.....	...	...	...	...	...	...	...	...	...	+																
68	Liolepis bellii (*Gray*)	.....	+	...	+	...	...	+	...	...	+	+	...	+														
69	Varanus flavescens (*Gray*)	.....	+	...	+	...	...	..	...	...	...	...	...	+														
70	„ nebulosus (*Gray*	.....	+	...	+	...	...	...	...	...	...	+	...	+														
71	„ rudicollis *Gray*	.....	...	...	...	...	...	...	...	...	...	...	...	+	...	...	...	...	+	...	+							
72	„ salvator (*Laur.*)	.....	+	+	+	...	...	...	...	...	...	+	+	+	+	...	+	...	+	+	+	+	...	...	+			

Table of Species (*continued*).

Consecutive Number.	Nominal List of Species of Reptiles known to occur in Siam or the Malay Peninsula.	Other Countries to the Westward.	India.	Ceylon.	Burma.	Nicobars.	Andamans.	China.	Annam.	Cochinchina.	Cambodia.	Siam (proper).	Lower Siam.	Malay Peninsula.	Sumatra.	Islands round Sumatra.	Java.	Natunas.	Borneo.	Celebes.	Philippines.	Lesser Sunda Is.	Moluccas.	New Guinea.	Australia.	Other Countries to the Eastward.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
73	Mabuia novemcarinata (*And.*) ...	.....	...	...	+	...	...	...	...	...	...	...	...	+												
74	,, macularia (*Blyth*)	.....	+	...	+	...	...	...	...	...	+	+														
75	,, rugifera (*Stol.*)	.....	...	...	...	+	...	...	..	...	...	...	...	+	...	+	+	...	+							
76	,, multifasciata (*Kuhl*)	.....	?	...	+	...	...	...	...	...	...	+	+	+	...	+	+	...	+	+	+	+				
77	,, siamensis (*Gthr.*)	.....	...	...	...	...	...	+	...	...	...	+														
78	,, longicaudata (*Hallow.*) ...	.....	...	...	...	...	..	...	...	...	...	+														
79	Lygosoma anomalopus *Blgr.*	.....	...	...	..	...	...	...	...	...	...	...	...	+	+											
80	,, maculatum (*Blyth*)	.....	+	...	+	...	+	...	...	...	...	+	...	+												
81	,, olivaceum (*Gray*)	.....	...	...	+	+	...	...	...	...	...	...	...	+	+	...	+	...	+	...	+					
82	,, atrocostatum (*Lesson*)...	.....	...	...	...	...	...	...	...	...	...	...	...	+	...	...	...	...	...	+	+	...	+	+	+	Caroline & Santa Cruz Islands.
83	,, singaporense (*Staud.*)...	.....	...	...	...	...	...	...	...	...	...	...	...	+												
84	,, melanostictum *Blgr.* ...	.....	...	...	+	...	...	...	...	...	...	+														
85	,, bowringii (*Gthr.*)	....	...	...	+	...	...	+	...	...	...	+	...	+	...	...	...	...	+	+						
86	,, albopunctatum (*Gray*)...	.....	+	...	+	...	...	...	...	...	...	...	...	+												
87	,, chalcides (*L.*)	.....	...	...	...	...	...	+	...	...	...	+	...	+	...	...	+									
88	Typhlops lineatus *Boie*	.....	...	...	...	...	...	...	...	...	...	...	...	+	?	...	+									
89	,, braminus (*Daud.*).....	Africa, Madagascar, Arabia.	+	+	+	...	...	+	...	...	...	+	...	+	...	...	+	...	+	+	+					
90	,, bothriorhynchus *Gthr.*...	.....	+	...	...	...	...	...	...	...	...	...	...	+												
91	,, siamensis *Gthr.*.....	.....	...	...	...	...	...	...	...	...	...	+														
92	,, nigroalbus *D. & B.*	.....	...	..	...	...	...	...	...	...	...	...	...	+	+											
93	,, schneideri *Jon.*	.....	...	...	...	...	...	...	...	...	...	+														
94	,, albiceps *Blgr.*.....	.....	...	...	...	...	...	...	...	...	...	+														
95	,, floweri *Blgr.*	.....	...	...	...	...	...	...	...	...	...	+														
96	Python reticulatus (*Schneid.*)	.....	...	...	+	...	...	...	...	...	...	+	...	+	+	+	+	+	+	+	+	+	+			
97	,, molurus (*L.*)	.....	+	+	...	...	...	+	...	...	...	...	...	+	...	...	+	...	...	+						
98	,, curtus *Schleg*.....	.....	...	...	...	...	...	...	...	...	...	...	...	+	+	...	...	...	+							
99	Cylindrophis rufus (*Laur.*)	.....	...	...	+	...	...	...	...	...	+	+	...	+	+	...	+	...	+	+						
100	,, lineatus *Blanf.*	.....	...	...	...	...	...	...	...	...	...	...	...	+												
101	Xenopeltis unicolor *Reinw.*.....	.....	+	...	+	...	...	...	...	...	...	+	...	+	+	+	+	...	+	+						
102	Acrochordus javanicus *Hornst.* ...	.....	...	...	...	...	...	...	...	...	...	+	...	+	...	...	+	...	...	...	...	...	...	+		
103	Chersydrus granulatus (*Schneid.*) .	.....	+	+	+	...	...	...	...	+	...	+	...	+	+	...	+	...	+	+	+	...	...	+		
104	Xenodermus javanicus *Reinh.*.....	.....	...	...	...	...	...	...	...	...	...	...	...	+	+	...	+									
105	Polyodontophis geminatus (*Boie*) .	.....	...	...	...	...	...	...	...	...	...	+	...	+	+	...	+	...	+	...	...	+				
106	,, sagittarius (*Cant.*)	.....	+	...	Assam	...	...	...	...	...	...	...	...	+												
107	Xenochrophis cerasogaster (*Cant*).	.....	+	...	Assam	...	...	...	...	...	...	...	...	+												
108	Prymnomiodon chalceus *Cope*.....	.....	...	...	...	...	...	...	...	...	...	+														
109	Tropidonotus trianguligerus *Boie* .	.....	...	...	+	...	...	...	...	...	...	...	...	+	+	+	+	...	+	+	...	...	+			

110	Tropidonotus piscator (*Schneid.*)...	.....	+	...	+	...	...	+	...	...	+	+	+	+	..	...	+	...	+										Manchuria, Japan.
111	,, tigrinus *Boie*	.....	...	...	...		...	+	...	+	...	+	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
112	,, stolatus (*L.*)	.....	+	+	+	...	...	+	...	...	...	...	...	+	...	...	...	...	...	...	+	...	...	...	...	...	...		
113	,, vittatus (*L.*)	.....	...	...	...	...	...	...	...	...	...	...	...	+	...	...	+	...	...	+									
114	,, subminiatus *Schleg.*.	.....	+	...	+	...	...	+	...	...	+	+	...	+	...	...	+	...	...	...	...	...	+						
115	,, chrysargus *Schleg.*...	.....	+	...	+	...	..	+	...	...	...	...	...	+	+	+	+	...	+	...	...	+	...	...	...	+			
116	,, maculatus *Edeling*...	.....	...	...	...	...	...	...	...	...	...	...	...	+	+	...	...	...	+										
117	Macropisthodon flaviceps (*D. & B.*)	.....	...	...	...	...	...	...	...	...	...	...	...	+	+	...	...	...	+										
118	,, rhodomelas (*Boie*)	.....	...	...	...	...	...	...	...	...	...	...	...	+	+	...	+	...	+	+									
119	Helicops schistosus (*Daud.*).....	.....	+	+	+	..	..	Yunnan	...	...	...	...	...	+															
120	Lycodon aulicus (*L.*)	Mascarene Is.	+	+	+	...	...	...	...	+	+	+	+	+	...	...	+	...	...	+	+	+							
121	,, laoensis *Gthr.*	.....	...	...	...	...	...	...	...	...	..	+																	
122	,, effrenis *Cant.*	.....	...	...	...	...	...	...	...	...	...	...	...	+	+	...	...	...	+										
123	,, subcinctus *Boie*	.....	...	...	...	...	...	...	...	...	...	...	...	+	+	+	+	...	+	...	+	+							
124	Dryocalamus subannulatus (*D. & B.*)	.....	...	...	...	...	...	...	...	...	...	...	...	+	+														
125	,, davisonii (*Blanf.*) ...	.....	...	...	+	...	..	...	+	+	...	+																	
126	Zaocys carinatus (*Gthr.*)	.....	...	...	...	...	.	...	...	...	...	...	...	+	+	...	...	...	+										
127	,, fuscus (*Gthr.*)	.....	...	...	...	...	...	...	...	...	...	...	...	+	+	...	...	+	+										
128	Zamenis korros (*Schleg.*)	.....	+	...	+	...	...	+	...	...	...	+	...	+	+	...	+												
129	,, mucosus (*L.*)	Transcaspia, Afganistan.	+	+	+	...	...	+	...	...	...	+	...	+	...	...	+												
130	,, spinalis (*Peters*)	.....	...	...	...	...	...	+	...	...	...	+	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		Mongolia, Corea.
131	,, fasciolatus (*Shaw*)	.....	+	...	...	...	...	...	...	...	...	...	...	+															
132	Xenelaphis hexagonotus (*Cantor*).	.....	...	...	+	...	..	...	...	...	...	...	...	+	+	...	+	...	+										
133	Coluber porphyraceus *Cantor*	.....	+	...	+	...	...	Yunnan	...	...	...	...	...	+	+														
134	,, tæniurus (*Cope*)	Sikhim	...	...	...	...	...	+	...	+	...	+	...	+	+	...	...	...	+	...	...	...	...	...	...	...	...		Manchuria.
135	,, oxycephalus *Boie*.....	.....	+	...	+	...	...	...	...	...	...	...	...	+	...	...	+	+	+	...	+								
136	,, melanurus *Schleg.*	.....	...	...	+	...	...	+	...	...	...	...	...	+	+	+	+	...	+										
137	,, radiatus *Schleg.*	.....	+	...	+	...	...	+	...	+	...	+	...	+	+	...	+												
138	Gonyophis margaritatus (*Peters*)..	.....	...	...	...	...	...	...	...	...	...	...	...	+	...	...	...	...	+										
139	Dendrophis pictus (*Gmel.*)	.....	+	...	+	...	..	...	...	...	+	+	+	+	+	+	+	+	+	+	+	+	+						
140	,, formosus *Boie*	.....	...	...	...	...	...	...	...	...	...	...	...	+	+	...	+	...	+										
141	Dendrelaphis caudolineatus (*Gray*)	.....	+	...	+	...	...	...	...	...	...	...	...	+	+	+	...	+	+	...	+								
142	Simotes purpurascens (*Schleg.*) ...	.....	...	...	...	..	.	+	...	+	...	+	...	+	+	+	+	...	+										
143	,, cyclurus (*Cantor*)	.....	+	...	...	...	..	+	...	+	..	+	...	+	+														
144	,, octolineatus (*Schneid.*) ...	.....	+	...	...	...	...	...	...	...	...	...	...	+	+	...	+	...	+	...	Sulu Is.								
145	,, signatus *Gthr.*	.....	...	...	...	...	...	...	...	...	...	...	...	+	+	...	+												
146	,, tæniatus *Gthr.*	.....	...	...	...	...	...	...	...	+	+	+																	
147	,, cruentatus *Gthr.*	.....	..	...	+	...	...	...	...	...	...	...	...	+															
148	Ablabes tricolor (*Schleg.*)	.....	...	...	...	...	...	..	...	...	...	...	...	+	+	...	+	...	+										
149	,, baliodirus (*Boie*).....	.....	...	...	...	...	...	...	...	...	...	...	...	+	+	...	+	+	+										
150	,, longicauda *Peters*	.....	...	...	...	...	...	...	...	...	...	...	...	+	+	...	...	...	+										
151	Macrocalamus lateralis *Gthr.*	.....	...	...	...	...	...	...	...	...	...	...	...	+															
152	Pseudorhabdium longiceps (*Cantor*)	.....	...	...	...	...	...	...	...	...	...	...	...	+	+	+	...	...	+	+	+								
153	Calamaria albiventer (*Gray*)	.....	...	...	...	...	...	...	...	...	...	...	...	+															
154	,, sumatrana *Edeling*	.....	...	...	...	...	...	...	...	...	...	...	...	+	+														
155	,, leucocephala *D. & B.*...	.....	...	...	...	...	..	...	...	...	...	...	...	+	+	...	+	...	+										

TABLE OF SPECIES (*continued*).

Consecutive Number.	Nominal List of Species of Reptiles known to occur in Siam or the Malay Peninsula.	Other Countries to the Westward.	India.	Ceylon.	Burma.	Nicobars.	Andamans.	China.	Annam.	Cochinchina.	Cambodia.	Siam (proper).	Lower Siam.	Malay Peninsula.	Sumatra.	Islands round Sumatra.	Java.	Natunas.	Borneo.	Celebes.	Philippines.	Lesser Sunda Is.	Moluccas.	New Guinea	Australia.	Other Countries to the Eastward.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
156	Calamaria pavimentata *D. & B.*	.....	...	...	+	.	...	+	...	+	...	+	...	+	...	...	+									
157	Hypsirhina indica (*Gray*)	.....	...	...	...	...	...	...	...	...	...	...	...	+												
158	,, plumbea (*Boie*)	.....	...	...	+	...	...	+	...	...	...	+	+	+	...	...	+	...	+	+						
159	,, jagorii *Peters*	.....	...	...	...	...	...	...	...	...	...	+														
160	,, enhydris (*Schneid.*)	.....	+	+	+	...	...	+	...	+	...	+	+	+	...	...	...	...	+	+						
161	,, chiuensis *Gray*	.....	...	...	...	...	...	+	...	...	...	+														
162	,, bocourtii *Jan*	.....	...	...	...	...	...	...	...	...	...	+	+													
163	,, sieboldii (*Schleg.*)	.....	+	...	+	...	...	...	...	...	...	...	...	+												
164	Homalopsis buccata (*L.*)	.....	...	...	+	...	...	...	...	...	+	+	+	+	+	...	+	...	+							
165	Cerberus rhyncops (*Schn.*)	.....	+	+	+	...	...	...	...	...	...	...	+	+	+	+	+	...	+	+	+	+	+	...	...	Pelew Islands.
166	Fordonia leucobalia (*Schleg.*)	.....	+	...	+	...	...	...	...	+	...	...	...	+	...	...	+	...	+	...	...	...	+	+	+	
167	Cantoria violacea *Gir.*	.....	...	...	+	+	...	...	...	...	...	...	...	+	...	...	...	..	+							
168	Hipistes hydrinus (*Cantor*)	.....	...	...	+	...	...	...	...	...	...	+	+	+												
169	Herpeton tentaculatum *Lacép.*	.....	...	...	...	...	...	...	...	+	...	+														
170	Dipsadomorphus multimaculatus (*Boie*)	.....	...	...	+	...	...	+	.	...	...	+	...	+	+	...	+	...	...	+						
171	,, gokool (*Gray*)	.....	+	Assam	...	...	...	...	...	...	...	...	...	+												
172	,, dendrophilus (*Boie*)	.....	...	...	...	...	...	...	...	...	...	...	+	+	+	...	+	...	+	+	+					
173	,, jaspideus (*D. & B.*)	.....	...	...	...	...	...	...	...	...	...	...	...	+	...	...	+	...	+							
174	,, drapiezii (*Boie*)	.....	...	...	...	...	...	...	...	...	...	...	...	+	...	...										
175	,, cynodon (*Boie*)	.....	...	Assam	+	...	...	...	...	...	...	...	...	+	...	+		...	+	...	+	+				
176	Psammodynastes pulverulentus (*Boie*)	.....	+	Assam	+	...	..	Formosa	...	...	...	+	...	+	+	+	+	+	+	+	+	+				
177	Dryophis xanthozona *Boie*	.....	...	...	...	...	.	...	...	...	...	...	...	+	...	...	+									
178	,, prasinus *Boie*	.....	+	Assam	+	...	...	...	...	...	...	+	...	+	+	+	+	+	+	+	+	+	+			
179	,, mycterizans (*L.*)	.....	+	+	+	...	...	...	...	...	...	...	+													
180	Dryophiops rubescens (*Gray*)	.....	...	...	...	...	...	...	...	...	...	+	...	+	+	+	...	+	+							
181	Chrysopelea ornata (*Shaw*)	.....	+	+	+	...	..	+	...	...	...	+	+	+	+	+	+	...	+	+	+					
182	,, chrysochlora (*Reinw.*)	.....	...	...	+	...	...	...	...	...	...	...	...	+	+	+	...	+	+							
183	Hydrus platurus (*L.*)	Obok, Red Sea: Madagascar.	+	+	...	...	...	+	...	...	...	+	...	+	+	...	...	...	...	...	...	...		...	+	Pacific Ocean, across to Panama.
184	Hydrophis cærulescens (*Shaw*)	.....	+	...	...	...	...	...	...	...	...	...	...	+												
185	,, nigrocinctus *Daud.*	.....	+	...	...	...	...	...	...	...	...	...	...	+												
186	,, gracilis (*Shaw*)	Persia.	+	+	+	...	.	...	...	...	...	...	...	+												
187	,, cantoris *Gthr.*	.....	+	...	...	...	...	...	...	...	...	...	...	+												
188	,, fasciatus (*Schn.*)	.....	+	...	...	...	...	+	...	...	...	+	...	+	...	...	...	...	...	...	...	...	..	+		

189	Hydrophis torquatus *Gthr.*	.....	+	...	...	...	...	...	...	...	...	...	...	+												
190	„ obscurus (*Daud.*)	.....	+	...	+	...	...	...	..	...	...	+	...	...	...	...	...	+								
191	Distira stokesii (*Gray*)	Makran Coast; Indian Ocean.	...	...	...	...	...	...	...	...	...	...	...	+	...	...	...	...	...	...	...	...	...	...	+	
192	„ ornata (*Gray*)	Muscat.	+	+	...	...	..	...	...	...	...	+	...	...	...	...	...	...	...	...	...	...	...	...	+	+
193	„ brugmansii (*Boie*)	Persian Gulf.	+	...	+	...	...	...	...	...	...	...	...	+												
194	„ cyanocincta (*Daud.*)	Persian Gulf.	+	+	+	...	...	+	...	...	...	...	...	+	...	...	...	...	..	...	+	...	...	+	...	Japan.
195	„ jerdonii (*Gray*)	.....	+	...	...	...	...	...	...	...	...	...	...	+	...	...	...	...	+							
196	Enhydris hardwickii (*Gray*)	.....	+	...	...	...	...	...	...	...	...	+	...	+	...	...	...	...	+	...	+	...	...	+		
197	Enhydrina valakadien (*Boie*)	Persian Gulf.	+	+	+	...	..	...	...	...	...	+	...	+	...	...	...	...	...	...	...	...	...	+		
198	Aipysurus eydouxi (*Gray*)	.....	...	...	...	...	...	...	...	...	...	...	...	+	...	...	...	...	...	...	+					
199	Platurus laticaudatus (*L.*)	.....	+	...	...	...	...	Loo Choo Is.	...	...	...	+	...	...	...	...	...	...	...	...	...	...	...	+	+	Fiji, N. Hebrides, Tasmania.
200	„ colubrinus (*Schn.*)	.....	+	...	...	...	...	...	...	...	...	...	...	+	...	+	...	...	...	Sulu Is.	...	+	...	+	Fiji, N. Hebrides, New Zealand.
201	Bungarus fasciatus (*Schn.*)	.....	+	...	+	...	...	+	...	...	...	+	...	+	+	...	+									
202	„ candidus (*L.*)	.....	+	...	+	...	...	+	...	...	...	...	+	...	...	...	+	...	...	+						
203	„ flaviceps *Reinh.*	.....	...	...	+	...	...	...	...	+	...	...	...	+	+	+	+	...	+							
204	Naia tripudians *Merr.*	Transcaspia, Afghanistan.	+	+	...	...	...	+	...	...	...	+	+	+	+	...	+	...	+	...	+	+				
205	„ bungarus *Schl.*	.....	+	...	+	...	...	+	...	+	...	+	...	+	...	...	...	...	+	+	+					
206	Callophis gracilis *Gray*	.....	...	...	...	...	...	...	...	...	...	...	...	+	+											
207	„ maculiceps *Gthr.*	.....	...	...	+	...	...	...	...	+	...	...	...	+												
208	Doliophis bivirgatus (*Boie*)	.....	...	...	+	...	...	...	...	+	...	...	+	+	+	+	+	...	+							
209	„ intestinalis (*Laur.*)	.....	...	...	+	...	...	...	...	...	...	...	...	+	+	+	+	...	+	+						
210	Haplopeltura boa (*Boie*)	.....	...	...	...	...	...	...	...	...	...	...	...	+	...	...	+	...	+	...	+	...	+	...	+	
211	Amblycephalus lævis *Boie*...	.....	...	...	...	...	...	...	...	...	...	...	...	?	...	...	+	+	+							
212	„ malaccanus (*Peters*)	.....	...	...	...	...	..	...	...	...	...	...	...	+	+	...	...	...	+							
213	„ moellendorffii (*Boettg.*)	.....	...	...	+	...	...	+	...	+	...	+														
214	„ margaritophorus (*Jan*)	.....	...	...	...	...	...	...	...	...	...	+														
215	Vipera russellii (*Shaw*)	.....	+	+	+	...	...	...	...	...	...	+	...	...	+	...	?									
216	Ancistrodon blomhoffii (*Boie*)	.....	...	...	...	...	...	+	...	...	...	+	...	...	...	...	...	...	...	...	...	...	...	...	...	Eastern Siberia, Mongolia, Japan.
217	Lachesis monticula (*Gthr.*)	.....	+	...	+	...	...	...	...	...	...	...	...	+	+											
218	„ purpureomaculatus (*Gray*)	.....	+	...	+	+	+	...	...	...	...	...	...	+	+											
219	„ gramineus (*Shaw*)	.....	+	...	+	...	...	+	...	...	...	+	...	+	+	...	+	...	...	...	...	+				
220	„ sumatranus (*Raffles*)	.....	...	...	...	...	...	...	...	...	...	...	...	+	+	+	...	...	+	Palawan						
221	„ wagleri (*Boie*)	.....	...	...	...	...	...	...	...	...	...	...	...	⊥	+	...	...	+	+	+	+					

It will be seen from this table that the Reptiles of the Malay Peninsula have rather more species in common with Borneo than with any of the other great islands. Out of 158 species inhabiting the Peninsula (Turtles and Sea-Snakes being excluded), 103 are also found in other countries on the Continent of Asia, 93 are also found in Borneo, 79 in Sumatra, and 71 in Java.

adaptable to changed circumstances of life, are apparently disappearing.

Very much remains to be done to complete our knowledge of the Agamoid lizards of the Malay Peninsula and Siam. *Draco volans*, *Calotes cristatellus*, and *Calotes versicolor* abound in certain localities and are well known; but the remaining 17 species have only been met with on a few occasions, which, considering their diurnal habits, striking appearance, and frequently brilliant coloration, seems remarkable.

Poisonous Snakes.—Of the 221 species of Reptiles in this list, 34 are poisonous snakes; but of these 18 (*Hydrophiinæ*) inhabit the sea, 4 (*Callophis* and *Doliophis*), owing to their sluggish habits and small mouths, can hardly be considered dangerous to mankind, and 5 (*Lachesis*), so far as is known, are not capable of inflicting a sufficiently poisonous wound to kill a human being. The Vipers *Vipera russelli* and *Ancistrodon blomhoffi*, although recorded from Siam, are not known to occur in the Peninsula. The Krait, *Bungarus candidus*, and its allies *B. fasciatus* and *B. flaviceps* are fortunately rare. Thus only two dangerous species remain which the traveller is likely to come across, viz., the Cobra (*Naia tripudians*) and the Hamadryad (*Naia bungarus*), a proportion which (from what I have read) compares favourably with other tropical countries. Personally I have never come across a Hamadryad wild, but a large Cobra is certainly a difficult and dangerous animal to kill (except with a gun) owing to its strength and power of springing at one[1].

Assistance received.—I have to acknowledge my sense of obligation to the Government officials of the Straits Settlements and the Native States of the Malay Peninsula for their invariable courtesy, assistance, and hospitality; more especially am I indebted to H.H. the Rajah Muda of Kedah, to Lt.-Col. R. Frowd Walker, C.M.G., commanding the Malay States Guides, to Mr. J. P. Rodger, British Resident, Selangor, to the Datu Meldrum, the Datu Hole, and Dr. J. P. A. Wilson of Johore. To the curators of the local Museums, Mr. L. Wray, jun., Mr. A. L. Butler, and particularly Dr. Hanitsch, I am much obliged for kindness in allowing me access at all times to the collections under their charge; and to Mr. H. N. Ridley, Director of the Botanical Gardens, Singapore, and to Mr. C. Curtis, Penang Govt. Gardens, for assistance in collecting; as also to the following gentlemen in Siam—Mr. J. McCarthy, Director of Surveys, Mr. W. Sinclair, Mr. A. J. Dickson, Mr. Austen Shea, Mr. J. S. Smyth, and Mr. N. K. Passmore. But above all I have to thank Mr. G. A. Boulenger, F.R.S., for the invaluable advice and assistance he has given me by correspondence during the last two years.

Nomenclature.—The classification and nomenclature are according to Mr. Boulenger's British Museum Catalogues of Reptiles, where

[1] Hence possibly the "Ular terbang," or Flying Snake, of the Malays. A Madrassee servant, who was with me for some years, often warned me to be careful with Cobras, because they could "fly, same like bird"!

the various synonyms and a description of each species will be found; I have only given other references and remarks on the *description* of species where it seemed these were needed for ready reference by other workers, or where they were made necessary by the fresh material examined during the last few years.

Part III.—List of Species, *with Remarks on their Localities, Habits, Life-coloration, &c.*

Order CHELONIA.

General terms applied to all Tortoises and Turtles:—
Siamese. "Tow-darng-darng."
Malay. "Koora-koora."
Jakun. "Binku." (H. J. Kelsall, J. S. B. R. A. S., No. 26, 1894, p. 7.)

All Tortoises, though not apparently considered actually sacred animals, are held by many Siamese and Chinese in religious veneration, and are kept and fed by the devout in temples and private enclosures. In a Chinese temple in the valley of Ayer Etam in Penang, in April 1898, I saw about fifty tortoises, belonging to five species; many of these had "chops" or Chinese characters stamped on their shells. In Bangkok we were informed that tortoises are kept in order to "make merit" with Buddha; anyway we noticed when living there that, however much our Siamese water-carrier might neglect to bring water for our own use or for other animals in captivity, he never forgot to replenish the supply in the tank where our collection of live tortoises was kept. Once at Ayuthia, in February 1898, I met a Chinaman carrying a fine tortoise, painted with the sacred yellow colour; though I offered him a large sum for the animal he declined to sell it, as he had determined to give it to the shrine of the colossal Buddha there.

There is also a Chinese belief that a turtle can act as a sort of "scape-goat," and take away a man's sins, if it is suitably inscribed and set free. When one of these marked turtles is captured a second time, it is considered more efficacious. And if a turtle is caught whose "chops" show that it has been liberated thus twice, it can be sold by the lucky finder for a very high figure to some man who finds his past misdeeds to hang particularly heavy on his conscience and wishes to have all mention of them erased from "the recording angel's book."

Suborder ATHECÆ.

Family Sphargidæ.

1. Dermochelys coriacea (L.).

Dermochelys coriacea, Blgr. Cat. Chel. etc. p. 10 (skull fig. p. 9).

The Leathery Turtle mentioned as supposed to have been caught near Singapore, P. Z. S. 1896, p. 857, has been found really local.

It was caught at Siglap, Singapore, on the 14th December, 1883, in the presence of Mr. A. M. Skinner, Straits Settlements Civil Service.

Hab. Tropical seas, sometimes occurs in the temperate seas.

Suborder THECOPHOPA.

Superfamily Cryptodira.

Family Platysternidæ.

2. Platysternum megacephalum Gray.

Platysternum megacephalum, Blgr. Cat. Chel. etc. p. 46.

The Big-headed Tortoise is mentioned in the British Museum Catalogue from Laos. In the Siamese Museum there is a stuffed specimen without locality; it measures :—

Length of head	about	60 mm.
„ „ carapace in median line		160 „
„ „ tail		175 „

Hab. Burma, Siam, South China.

Family Testudinidæ.

3. Callagur picta Gray.

4. Batagur baska Gray.

5. Hardella thurgi Gray.

References to the occurrence of these three species of water-tortoises in the Straits Settlements are given in P. Z. S. 1896, p. 858.

At different times I have seen tortoises, some of great size, belonging to this group without being able to identify them, but there are at least two species in the Malay Peninsula, one of which inhabits the coasts (as Cantor remarks) as well as the rivers and ponds. One species (apparently *Callagur picta*) is also found in Siam; we have seen it at Bangkok.

N.B.—Dr. Hanitsch (Report Raffles Library and Museum, 1897, p. 8) records *Kachuga lineata* from Ulu Legeh. I have not seen the specimen.

6. Damonia subtrijuga (Schleg. & Müll.).

Emys macrocephala, Günth. Rept. Brit. Ind. p. 31 (1864).
Damonia subtrijuga, Blgr. Cat. Chel. etc. p. 94 (1889).

The British Museum Catalogue mentions specimens from Siam (M. Mouhot and W. H. Newman) and Cambodia (M. Mouhot). This very handsomely marked and coloured little tortoise is numerous round Bangkok, living apparently always in freshwater ponds and canals and the swampy paddy-fields: in captivity they refuse all food except molluscs, the common blue mussel they crunch up and devour eagerly; they are themselves

eaten by Siamese and Chinese. When excited they make a slight hissing noise. Besides obtaining specimens in Bangkok in January, April, August, October, November, and December, we got one at Ayuthia in February in a small lotus-lily pond.

An egg of this species, laid 17th April, 1897, was (as usual with tortoises) white with a hard shell, and measured 32 mm. on its longer and 20 mm. on its shorter axis.

Colour (in life). Shell chestnut-brown, with a more or less distinct large black spot on each shield; edges of the marginal plates more or less yellow; plastron yellow, each shield with a large black blotch and chestnut-brown markings.

Head black, except the crown, which is rich dark brown, and the following very well-defined markings, which are lemon-yellow:—a semicircle of small spots on the upper eyelid; a streak from the top of the snout to the temple, following the canthus rostralis and the supraorbital edge; a broader streak, nearly joining the last, starting from the superior-posterior corner of the eye and continued along the side of the neck; below this is an interrupted line of oblong spots commencing at the posterior border of the eye and continued down the neck; a broad streak commences on the loreal region and finishes at the angle of the mouth; two vertical streaks from the nostrils to the mouth, outside and parallel to these streaks are two vertically oblong spots; the edge of the upper mandible is also yellow; a very distinct V-shaped mark on each side of the mandible; from the angle of the mouth a yellow streak descends to the lower surface of the head and there expands into a large spot, and another streak runs back along the neck. Neck dark brown, with four narrow yellow lines along each side, some very small yellow spots above, and numerous yellow vermiculations beneath. Limbs black or dark brown, with lemon-yellow markings. Tail dark brown, with longitudinal yellow lines converging at the tip. Iris very narrow, yellow.

Size. A female from Bangkok, adult, measured:—

Width of head, 37 mm.

Carapace, length, in straight line 155 mm.; following the curve 167 mm.

Carapace, width, in straight line 122 mm.; following the curve 153 mm.

Hab. Siam, Cambodia, Java.

7. Bellia crassicollis Gray.

Emys crassicollis, Cantor, p. 3; Günth. Rept. Brit. Ind. p. 28, pl. iv. fig. E; Stol. J. A. S. B. 1870, vol. xxxix, part ii. p. 227.

Bellia crassicollis, Blgr. Cat. Chel. etc. p. 98 (skull fig. p. 98, shell fig. p. 99).

The Black Tortoise is common in small freshwater streams and ponds in Penang and Kedah: it is one of the species kept by the Chinese priests in the Ayer Etam Tortoise Temple. Apparently, like some other freshwater tortoises, this species is very local, as there is no specimen of it in the Perak Museum and I have not

seen it from Singapore. The British Museum Catalogue mentions one specimen from Siam (M. Mouhot), and I obtained one from the neighbourhood of Bangkok. Cantor says it feeds upon frogs, shell-fish, and animal offal. It can hiss when angry.

Colour (in life). Carapace uniform intense black. Plastron entirely black, or black with some yellow mottlings, or rich dark brown with pale bands following the sutures of the shields, the most conspicuous being the median one.

Head black, with conspicuous lemon-yellow spots, the principal being above the eye (this spot is prolonged forwards on to the top of the head), above the ear, and at the angle of the mouth, and an irregular patch along each lower jaw to below the eye; in some adult specimens these spots disappear, the whole head being deep black. Neck, hands, feet, limbs, and tail are deep black, the upper parts of the limbs are, however, sometimes pale-coloured. Claws horn-colour. Iris dark brown.

Size. The largest specimen I have measured I found in a pond in the jungle on low undulating hills near Jenan, Kedah.

Length of carapace, following curve in median line .. 200 mm.
Breadth „ „ „ ..... 170 mm.

The smallest, caught in Kedah, June 1898, had the carapace 53 mm. in length.

Males and females do not seem to differ much in size.

Hab. Tenasserim, Siam, Malay Peninsula, Sumatra, and Borneo.

8. Cyclemys platynota Gray.

Emys platynota, Cantor, p. 3.
Notochelys platynota, Günth. Rept. Brit. Ind. p. 17.
Cyclemys platynota, Blgr. Cat. Chel. etc. p. 130.
"Kátong" of the Malays (*apud* Cantor).

Localities. The Flat-backed Freshwater Tortoise lives in ponds and swampy jungles; its occurrence seems rather strange. Cantor obtained it from Penang (apparently only a single specimen), but it has not been recorded from there since, and there was not one in the Ayer Etam Tortoise Temple when I visited it in April 1898. A. R. Wallace obtained it in Singapore, but apparently no more were seen in the island (Mr. Ridley informs me that for seven years he never met this species) till 1897, when one was caught in the lake in the Singapore Botanical Gardens, and Dr. Hanitsch got three from Selitah, Singapore.

Cantor says it inhabits the valleys of the Malay Peninsula, but unfortunately does not give the actual localities; however, we now know of two places on the mainland where it occurs. First, in the Perak Museum there are several specimens from the low-lying country near Taiping; second, in September 1897 I found eighteen individuals in the streams among the foot-hills of Gunong Pulai, Johore.

Identification. In the P. Z. S. 1896, p. 859, I wrote: "I have not made out to what species Cantor's Penang Tortoise belongs," referring to Günther, R. B. I. p. 18, remarking that Cantor's *Emys*

platynota "was certainly an incorrect determination, as is evident from his description." However, on comparing Cantor's description with living specimens of *C. platynota* (subsequently identified as such by Mr. Boulenger), I have no doubt he refers to this species, and the description appears good.

Varieties. There appear to be two fairly distinct varieties occurring in the same localities, differing in the number of vertebral shields (5 and 6 respectively), in the general shape of the carapace, and in the colour of the head.

Habits. When alarmed the Flat-back hisses after the manner of tortoises, and in common with some other species, but to a greater extent, it has the very objectionable habit of voiding excrement time after time when it is picked up or handled; however when, after some weeks, it gets used to being handled it ceases to do so. In captivity it spends all its time by preference in shallow water; it feeds most voraciously on almost any vegetable, but prefers fruit, of which it will get through a large quantity in a day. It is curious to see with how much energy two or three of these tortoises will fight over a piece of banana. Out of about fourteen species of tortoises which I have kept as pets, these Flat-backs, although the least ornamental to look at owing to their nearly uniform muddy-brown colour, are the most active and intelligent; they quickly get tame and learn to run up to one and even follow for some little way if rewarded by a piece of fruit, they will climb out of boxes and baskets which other tortoises never find their way out of, and I have seen two of them attack a big water-snake (*Acrochordus javanicus*). The battered condition which their shells sometimes are in may perhaps be accounted for by their enterprising nature. Cantor's experience of his *platynota* differs from mine, as he says: "It lived in my garden at Penang upwards of a twelvemonth, apparently without food, and it was never observed to enter a tank." But Dr. Hanitsch, who has a collection of live tortoises at Singapore, has remarked the tameness and voracity of this species [1].

Size. The largest specimen I have measured, a male from Johore, is in length of carapace, following the curve, 280 mm.

Hab. Mergui, Malay Peninsula, Sumatra, and Borneo.

9. Cyclemys dhor (Gray).

Cyclemys oldhamii, Günth. Rept. Brit. Ind. p. 15, pl. v. fig. B.
Cyclemys dhor, Blgr. Cat. Chel. etc. p. 131.

The British Museum Catalogue mentions two specimens from the Laos Mountains, collected by M. Mouhot. I can find no direct evidence of its occurrence in the Malay Peninsula (*vide* P. Z. S. 1896, p. 859).

Hab. Northern India, Burma, Siam, Cambodia, Malay Peninsula, Java, Borneo, and Mentawei Islands (Sipora).

[1] A specimen of *C. platynota* in the Ghizeh Zoological Gardens repeatedly climbs out of an enclosure where five other species of tortoises are kept and remain; the side is of vertical "rabbit-wire" netting three feet high.—25.3.99.

10. Cyclemys mouhotii Gray.

Cyclemys mouhotii, Blgr. Cat. Chel. etc. p. 132.

The type specimens collected by M. Mouhot in the Laos Mountains are in the British Museum.

Hab. Siam, Cochinchina, Cachar.

11. Cyclemys amboinensis (Daud.).

Cistudo amboinensis, Cantor, p. 5.

Cuora amboinensis, Günth. Rept. Brit. Ind. p. 12, pl. iv. figs. A, B.

Cyclemys amboinensis, Blgr. Cat. Chel. etc. p. 133 (skull fig. p. 128; shell fig. p. 129).

"Báning" of the Malays, according to Cantor.

"Kura kura patah" of the Perak Malays, according to L. Wray.

Localities. The Box-Tortoise is the chelonian most frequently met with in the Straits Settlements, and seems generally distributed in the low country, living in ponds, streams, and paddy-fields. I have seen specimens from Alor Star in Kedah, from Penang, from Taiping in Perak, from Malacca, and from Singapore. There are a score or more living in the Ayer Etam Tortoise Temple. I did not meet this species myself in Siam proper, but the British Museum Catalogue mentions a specimen from Siam.

Habits. When first caught they are very shy; for some weeks on being touched they will at once shut themselves up in their shells, but they gradually get used to people being about them. They feed fairly regularly on vegetables, preferring bananas, but only eat small quantities at a time (a great contrast to the greedy *C. platynota*).

Size. An adult male from Kedah measured:—

Length of carapace following curve	216 mm.
Breadth „ „ „	214 „

Hab. Burma, Siam, Malay Peninsula, Borneo (I met this species at Brunei), Celebes, Gilolo, Amboina, and Philippines.

12. Geoemyda spinosa Gray.

Geomyda spinosa, Blgr. Cat. Chel. etc. p. 137; S. Flower, P. Z. S. 1896, p. 859.

Localities. The Spinous Tortoise is found in jungle-streams apparently only in the hills, in Penang and Perak at elevations of some thousand feet above the sea, but in Singapore it is found on Bukit Timah at less than 500 feet. It is one of the mountain forms which are thus found at a low elevation in Singapore, as if Bukit Timah had once equalled the more northern granite hills in height, and when it gradually sank by subsidence or denudation the animals and plants on it had to accommodate themselves to this lower level. I find that Cantor noticed this, having written in 1847 of Singapore:—"In the valleys occur vegetable and animal forms which at Pinang have been observed at or near the summit of the hills, but not in the plains. Thus, at Singapore occur *Also-*

phila, *Schizæa*, *Tacca cristata*, *Gnetum*, *Nepenthes*, *Begonia*, *Eurycoma*, and others, which at Pinang appear to affect a much greater elevation. Instances of reptiles in common to the plains of Singapore and the hills of Pinang are:—*Ptychozoon homalocephalum*, *Gymnodactylus pulchellus*, *Lygosoma chalcides*, *Pilidion lineatum*, *Typhlops nigro-albus*, *Calamaria lumbricoidea*, var., *Leptophis caudalineatus*, *Elaps intestinalis*, *E. nigromaculatus*."

Dr. Hanitsch (Rep. Raffles Libr. & Mus. 1897, p. 9) records this species from Ulu Legeh.

Habits. Lives day and night in the water and feeds on fruit and vegetables.

Size. A fine specimen from Government Hill, Penang, with a remarkably depressed carapace measures:—

Length of carapace following curve	198 mm.
Breadth „ „ „	190 „

Hab. Tenasserim, Malay Peninsula, Sumatra, and Borneo (I met this species at Sandakan and Brunei).

13. Geoemyda grandis Gray.

Geoemyda grandis, Blgr. Cat. Chel. etc. p. 138.

Localities. This grand Tortoise was originally described from specimens from Pachebone (Siam) and Cambodia collected by M. Mouhot; since then it has been recorded from Burma, and now three States in the Malay Peninsula can be added.

1st, Penang. On visiting the Ayer Etam Tortoise Temple in April 1898, we saw many of these fine tortoises there, said to have been caught on the island.

2nd, Province Wellesley. In the same month Mr. Bowen, Sheriff of Penang, when on a shooting expedition in the Province, caught a tortoise which he kindly gave me, which proved to belong to this species.

3rd, Kedah. In May and June 1898 I found it very numerous in the neighbourhood of Alor Star, living in ponds, ditches, and flooded paddy-fields.

I have not seen it wild near Bangkok, but a very large water-tortoise which is kept in some old palace and temple tanks (together with the species, apparently *Callagur picta*, mentioned above) probably is *Geoemyda grandis*, but these old individuals are so covered with a thick slimy green vegetable growth that they are difficult to identify.

The "sacred" tortoise I saw at Ayuthia, mentioned above, also apparently belongs to this species, as does a carapace I picked up in the bed of a dried-up pond at Pachim, on the Bangpakong River, in March 1897.

Dr. Hanitsch (Rep. Raffles Libr. & Mus. 1897, p. 9) records *Geoemyda grandis* from two localities in the Malay Peninsula; the specimens, which he kindly allowed me to examine when passing through Singapore, are, however, in one case *Bellia crassicollis*, and in the other *Cyclemys platynota*.

Habits. Freshwater tortoises, but active when walking on

land, and large specimens are very powerful. When touched or picked up, they draw in their legs and hiss loudly; when turned on their backs, they sometimes utter a little plaintive cry. The jaws of old individuals are of great strength and wonderfully jagged at the edges, almost like a series of teeth. They are vegetable-feeders.

Colour (in life). Skin of head and neck very dark brown, closely vermiculated with dark yellow-ochre, except cutting-edge of lower jaw, which is yellow. The bare skin from angle of mouth to tympanum is white. Iris pale yellow; space round iris light red, with dark brown radiating lines. Tongue flesh-coloured.

Size. Out of about twenty individuals from Kedah examined, the largest male measured:—

Length of carapace following curve	383 mm.
Breadth „ „ „	329 „

The largest female measured:—

Length of carapace following curve	320 mm.
Breadth „ „ „	278 „

However, a tortoise from Bangkok, which I believe belonged to this species (which I had intended presenting to the Zoological Society, but was unfortunately lost in the wreck of the P. & O. s.s. 'China' at Perim when on its way to London), was much larger, and measured:—

Length of carapace following curve	457 mm.
Breadth „ „ „	387 „

In June 1898 young tortoises of this species appeared in Kedah with the carapace only about 50 mm. long; they are very different in appearance from the adults.

Hab. Burma, Siam, Cambodia, Malay Peninsula.

14. Testudo emys Schleg. & Müll.

Manouria emys Günth. Rept. Brit. Ind. p. 10.

Testudo emys Blgr. Cat. Chel. etc. p. 158 (skull fig. p. 150).

"Baning" of the Perak Malays, according to L. Wray.

Localities. The upland Land-Tortoise does not seem to have been met with in the Penang Hills since Cantor's time, and there were no specimens of it in the Ayer Etam Tortoise Temple when I visited it. In the Larut Hills in Perak, however, it seems to be not uncommon, and there are several specimens in the museum at Taiping. The only other locality in the Peninsula that it is recorded from is the Dindings (P. Z. S. 1896, p. 860). The British Museum Catalogue mentions a specimen from Siam.

Hab. Assam, Burma, Siam, Malay Peninsula, Sumatra, Borneo.

15. Testudo elongata Blyth.

Testudo elongata Blgr. Cat. Chel. etc. p. 173.

Localities. The Elongated Land-Tortoise seems to be a hill-

species, but I have never caught it wild myself. A specimen that was given me alive, at Bangkok, had unfortunately no history, except that it came from somewhere "up country." At Hinlap, in the Dong Phya Fai (Forest of the Lord of Fire), 700 feet above the sea, I found a carapace near the village. In the King of Siam's gardens, in Bangkok, there are several individuals, but I could not ascertain where they came from originally. In the Ayer Etam Tortoise Temple I was surprised to see two specimens of *T. elongata*, as it has not hitherto been recorded from the Peninsula. The man in charge told me they were caught in the Penang Hills; and it is probably true, as one cannot well imagine why they should be brought there from Burma, as Ayer Etam is situated in the interior of Penang, almost surrounded by hills, some miles from the coast. The British Museum Catalogue mentions specimens from the Laos Mountains and Cambodia, collected by M. Mouhot, and one specimen from Cochinchina.

Description. A Penang specimen had no nuchal shield.

Habits. Those of most land-tortoises, hisses when alarmed, eats vegetable foods, and appears to prefer bananas to anything else.

Colour (in life). Carapace and plastron very pale yellowish brown, each scale with an irregular black blotch. Head and neck very pale green, almost white. Limbs pale greenish horn-colour. Iris very dark brownish grey, almost black.

Size. A Siamese specimen, now in the Zoological Society's Gardens, measured in May 1897:—

Length of carapace following curve	300 mm.
Breadth „ „ „	248 „

The Hinlap specimen measured, length of carapace following curve 330 mm.

A Penang specimen measured:—

Length of carapace following curve	350 mm.
Breadth „ „ „	312 „

Hab. Bengal (Chaibassa), Burma, Siam, Cambodia, Cochinchina, and Malay Peninsula.

Family Chelonidæ.

The three species of Sea-Turtles are collectively called by the Siamese:—

"Tou," applied to any tortoise or turtle.

"Tou-ta-noo" *or* "tou-ta-nuk," } any big turtle.
"Ta-noo-tou," }

"Samett," local name for Sea-Turtles at Kofai, Gulf of Siam; and by the Malays "kúra," "penyu," or "pinyú."

In calm weather, in the Straits of Malacca and in the Gulf of Siam, one not unfrequently, when on board a steamer, passes a turtle swimming near the surface, sometimes showing only its broad curved back or its long flippers, sometimes putting its head right up out of the water.

16. Chelone mydas (L.).

Chelonia virgata, Cantor, p. 11; Günth. Rept. Brit. Ind. p. 53.
Chelone mydas, Blgr. Cat. Chel. etc. p. 180.

The Edible or Green Turtle occurs in the Straits of Malacca and Gulf of Siam; there are two specimens from the coast of Perak in the Taiping Museum; I got one in Singapore in Sept. 1898. In the Siamese Museum are the skulls and shells of two individuals from Kofai, also a large stuffed specimen from the same island, caught about 11th May, 1897; it was a female, and contained a large number of eggs. It had one claw on each front flipper (a specimen I saw on the coast of Ceylon, Sept. 1898, had on each flipper one distinct claw and one rudimentary).

Turtles' eggs are esteemed a luxury by the Siamese, and it seems the turtle-egg industry at Kofai is farmed out by Government, and the farmers' people take good care no one else catches the turtles when they come ashore to lay their eggs on the island.

Size. The female from Kofai, Gulf of Siam, measured:—

Length of carapace following curve	1108	mm.
Breadth „ „ „	1016	„
Length of tail, from posterior side of vent to tip.	86	„
„ fore flipper..... about	673	„
„ hind flipper	419	„

Hab. Tropical and subtropical seas.

17. Chelone imbricata (L.).

Chelonia imbricata, Cantor, p. 13.
Caretta squamata, Günth. Rept. Brit. Ind. p. 54.
Chelone imbricata, Blgr. Cat Chel. etc. p. 183 (skull fig. p. 181); Blgr. Fauna Brit. Ind., Rept. p. 49 (young fig.).

The Hawksbill Turtle occurs in the Straits of Malacca and in the Gulf of Siam. One from Singapore was recorded in the P. Z. S. 1896, p. 680. The Siamese Museum contains three half-grown specimens from Kosichang, and in August 1898 I obtained an adult off the same island.

Hab. Tropical and subtropical seas.

18. Thalassochelys caretta (L.).

Chelonia olivacea, Cantor, p. 13.
Caouana olivacea, Günth. Rept. Brit. Ind. p. 52.
Thalassochelys caretta, Blgr. Cat. Chel. etc. p. 184.

The Loggerhead Turtle occurs in the Straits of Malacca and in the Gulf of Siam, but is apparently less common than either of the preceding species. There is a specimen from Penang in the Taiping Museum; one from Singapore was recorded in the P. Z. S. 1896, p. 860. The Siamese Museum contains a skull from Kofai; also a carapace, 698 mm. in length, from the same island, possibly belongs to this species.

Hab. Tropical and subtropical seas.

Superfamily Trionychoidea.

Family Trionychidæ.

The Soft Turtles are known to the Siamese as "Ta-parp-naam" and "krow."

Some of the Indian inhabitants of Penang call them "Cawchur." (In Benares, N.W.P., they were called "Càwchóo.")

In the Taiping Museum there are several specimens of more than one species from the rivers and marshes of Perak. A large *Trionyx* was caught recently in a ditch by the side of one of the principal roads in Singapore, right in the town; they are also from time to time trapped in the ornamental water in the Botanical Gardens there. Mr. Ridley, Director of the Gardens, tells me they are unwelcome visitors; not only do they steal the food put out for the water-fowl, but they have killed two flamingoes which had been imported from Egypt. In the lake (Singapore) I have myself watched in the middle of the day two large *Trionyx* swimming and creeping slowly about in the swallow order, raising their heads to the surface at frequent intervals; but as a rule these turtles are very seldom seen, even in waters where there can be no doubt they abound.

19. Trionyx subplanus Geoffr. (Plate XXXVI.)

Trionyx subplanus, Günth. Rept. Brit. Ind. p. 49.

Trionyx güntheri, Günth. Rept. Brit. Ind. p. 49, pl. iv. fig. 4.

Trionyx subplanus, Blgr. Cat. Chel. etc. p. 246 (skull fig. p. 247).

Trionyx subplanus is recorded from Penang and Singapore (P. Z. S. 1896, p. 860). In November 1896 I obtained one specimen in Penang; like other turtles of this genus, it tried fiercely to bite when handled.

Colour (in life). The upper surfaces are pale yellowish olive, mottled all over with dark olive-brown. These markings are darker down the centre of the back, thus forming an irregular black vertebral line. There are also three pairs of indistinct eye-like markings, the anterior pair being situated almost at the front edge of the dorsal leather-shield. The remaining four eyes form a parallelogram on the centre of the back, but the posterior pair are slightly nearer together than the median pair. There is a narrow light yellow edge to the posterior half of the dorsal leather-shield. The under surfaces are very pale lemon-yellow. About the head there are shades of red on the yellow ground-colour. There are five dark lines on the head; the outermost spring from the posterior border of the eyes, and are continued backwards and downwards on to the sides of the neck; in the centre of the forehead, level with the anterior border of the eyes, a dark line commences and runs back and bifurcates, thus forming a Y-shaped mark between and behind the eyes; at the extremities of the branches of the Y the two lines converge together again for a

short distance, and then trend outwards again and are continued back on to the neck, gradually getting thinner and fainter; the fifth dark line is median, commencing in the fork of the Y, but without joining it, and running back on to the neck, gradually getting fainter and disappearing considerably in front of where the inner pair of dark lines cease. Iris pale gold.

Size. This Penang specimen measured, after death:—

Length of dorsal leather-shield.....	190 mm.
Breadth „ „	145 „
Length from snout to tip of tail	340 „

When it was alive the dorsal leather-shield had been about 202 mm. long.

Hab. Mergui, Malay Peninsula, Sumatra, Java, and Borneo.

20. Trionyx hurum Gray.

Gymnopus gangeticus, Cantor, p. 8.
Trionyx gangeticus, Günth. Rept. Brit. Ind. p. 47.
Trionyx hurum, Blgr. Cat. Chel. etc. p. 249; Blgr. Fauna Brit. Ind., Rept. p. 13 (young fig.).

This species does not seem to have been met with in the Straits Settlements since Cantor's time, who says "it is of fierce habits, desperately defending itself by biting, emitting when excited a low, hoarse, cackling sound."

Hab. Ganges and Malay Peninsula.

N.B.—Dr. Hanitsch (Rep. Raffles Libr. & Museum, 1897, p. 9) records *Trionyx hurum* from Ulu Legeh. I saw the specimen, but could not identify it myself.

21. Trionyx phayrii Theob.

Trionyx phayrii, Blgr. Cat. Chel. etc. p. 251 (skull fig. p. 252).

Phayre's Soft Turtle was recorded from Penang (Anderson, J. A. S. B. 1871, p. 30), and in September 1897 I obtained one specimen in a stream among the foot-hills of Gunong Pulai, Johore.

Hab. Burma, Malay Peninsula, Java, Borneo.

22. Trionyx cartilagineus (Boddaert).

Gymnopus cartilaginea, Cantor, p. 9.
Trionyx ornatus, Günth. Rept. Brit. Ind. p. 48, pl. iv. fig. B.
Trionyx cartilagineus, Blgr. Cat. Chel. etc. p. 253 (skull fig.).

Localities. This is apparently the most numerous species of Soft Tortoise, both in the Malay Peninsula and Siam, living in rivers and ponds. The British Museum Catalogue mentions specimens from Penang (Cantor), and from Siam and Cambodia (Mouhot). The only specimens I obtained were from Bangkok.

Habits. This *Trionyx* is very fierce and bad-tempered; one that I kept for seven and a half months, and tried to tame, remained just as intractable as when first caught, biting at anything that approached it. They can bite hard, too, and it is very difficult to get them to let go of anything they have seized, unless they

happen to take a piece right out. The sudden way in which they shoot out and then retract their long necks, and their great strength, make them formidable animals. I have seen one of mine seize a stick pointed at it by a visitor and instantly break it in two, and one that I once had occasion to take for a drive in a carriage occupied itself in worrying a cushion and did not a little damage. Like *Damonia subtrijuga*, they are fond of eating blue mussels; this was the only food I ever saw mine eating, though they were supplied with fish, frogs, and crustaceans (dead and alive), as well as with vegetables, though the *Trionyx* which Mr. Ridley keeps in Singapore eat rice. These turtles are eaten by the Chinese and by some classes of Siamese. The eggs are hard-shelled, white, and spherical. The young turtles are to be found during the latter half of July and in August; they try to bite lustily.

Colour (in life). Above olive-brown, beneath white, head and neck with numerous distinct small yellow spots.

Size. An adult female from Bangkok measured:—

Length of dorsal leather-shield	268 mm.
Breadth „ „	230 „
Length of head and neck	205 „

Hab. Burma, Siam, Cambodia, Malay Peninsula, Sumatra, Java, Borneo.

23. Pelochelys cantoris Gray.

Gymnopus indicus, Cantor, p. 10.
Chitra indica, Günth. Rept. Brit. Ind. p. 50, pl. vi. fig. C.
Pelochelys cantoris, Blgr. Cat. Chel. etc. p. 253 (skull fig.).

Cantor's Soft Turtle was described from a Penang specimen. Cantor writes of this species:—"*Hab.* Pinang, Malayan Peninsula (estuaries, sea-coast), rivers in India, Philippine Islands. At Pinang this species is frequently taken in the fishing-stakes. The Chinese inhabitants greatly relish this, as well as the preceding species of *Gymnopus* (i. e. *Trionyx*), as articles of food. Individuals weighing 240 lbs. occur in the Ganges, and others of gigantic dimensions are not uncommon at Pinang. It is very powerful, and of ferocious habits."

I obtained a specimen from the Kedah river; the dry and somewhat shrivelled dorsal shield measured 641 mm. in length and 552 in breadth. But Cantor measured a much larger individual, whose "shell" was 940 mm. in length. This Kedah specimen is apparently the first record of this species in Siamese territory, and it probably also occurs in Siam proper, as a half-grown specimen in the Siamese Museum, caught in the river Menam, appears to belong to this species, and also a little Soft Turtle, caught on the 29th March, 1897, in the Bangpakong river, a little below Kabin, may be; Mr. Boulenger writes of this individual:—"I doubt the *Trionyx* being *Pelochelys cantoris*, but the affinities of so young a specimen cannot be well understood."

The colours, in life, of this Bangpakong turtle were: above dark olive-green, with pale olive-green markings, and a broad pale yellow margin to dorsal leather-shield (except in front); underneath it was pale yellow and buff immaculate. Five pale longitudinal lines on the neck. Iris golden.

Hab. Ganges, Burma, China, Siam, Malay Peninsula, Borneo, Philippines.

Order EMYDOSAURIA.

Family Crocodilidæ.

Siamese. "Takhay."

Malay. "Buaya."

H. J. Kelsall (J. S. B. R. A. S. no. 26, 1894, p. 8) says that Crocodiles are said to occur in the Kahang river, in the interior of Johore, and are called "bagin" by the Jakuns, both on ordinary occasions (p. 55) and when using the Camphor[1] language (p. 47).

The Malays tell me there are two sorts of Crocodile in the Kedah river—the usual one (*C. porosus*), which grows to a great length, and is of comparatively slender build, and a rarer one, which does not usually grow long, but is very bulky; one of this sort was killed near Alor Star on the 24th May, 1898, which was about 4·26 metres (14 feet) long; I arrived at the place next day, but was, unfortunately, too late to see the body; possibly this may be *Crocodilus palustris*.

24. Tomistoma schlegeli (S. Müller).

Tomistoma schlegelii, Blgr. Cat. Chel. etc. p. 276; Blgr. P. Z. S. 1896, p. 628.

"Buaya jinjulong" of the Selangor Malays according to A. L. Butler, and of the Perak Malays according to L. Wray.

The Malay Gharial is now known to occur in the States of Perak and Selangor, on the west coast, and of Pahang, on the east coast of the Peninsula; it is apparently unknown in Kedah. Besides the specimens in the British and Taiping Museums, from the Perak river, I saw, in December 1896, two skins from the same river belonging to Captain H. C. Metcalfe, 58th Regt. In the Kuala Lumpor Museum there is a specimen from Kuala Selangor, 1895, given by the late Captain H. C. Syers. In August 1897 I saw a large skull, said to be from the Pahang river, belonging to Mr. J. H. Lindsay; the gharial is said to have seized a dog swimming in the river, and to have been subsequently killed by the dog's master some miles up-stream from Pekan.

Size. The Pulo Tiga specimen sent by Mr. Wray to the British Museum measured 2·64 metres (8 feet 9 inches). The British

[1] The Jakuns, while on the search for camphor (*Dryobalanops aromatica*, Gaertn.), taboo their ordinary language, and use a special one; not only the men searching in the jungle, but also their families left in the villages conform to this ancient superstition.

Museum Catalogue says of this species: it "reaches a length of 4·5 metres" (14 feet 9 inches).

Hab. Malay Peninsula, Sumatra, and Borneo

25. Crocodilus siamensis Schmidt.

Crocodilus siamensis, Günth. Rept. Brit. Ind. p. 61, pl. viii. fig. B; Blgr. Cat. Chel. etc. p. 282.

But little seems to be known of this species, first described from a skull sent by French missionaries from Siam to the Paris Museum, about, or before, the year 1801.

The only specimen in the British Museum was procured in Cambodia by M. Mouhot; it is 1·38 metres long. It is not represented in the Siamese Museum so far.

Hab. Siam, Cambodia, Java.

26. Crocodilus porosus Schn.

Crocodilus porosus, Cantor, p. 16; Günth. Rept. Brit. Ind. p. 62; Blgr. Cat. Chel. etc. p. 284; S. Flower, P. Z. S. 1896, p. 862.

Crocodilus pondicerianus, Günth. Rept. Brit. Ind. p. 62, pl. vii.

Localities. This crocodile is exceedingly numerous in every suitable locality in Malaya, and is also found in the tidal rivers of Siam. Malay fishermen tell me that formerly crocodiles were to be seen along the coast of Penang, but now they thought they were only to be found on the coast of Province Wellesley, on the mainland; these men, that I happen to know, however live and work on the east and north coasts; and Mr. Wilkinson, Straits Settlements Civil Service, tells me some crocodiles still remain in the swamps on the west or seaward side of the island.

Every year many people lose their lives in the Peninsula by being seized and carried off by crocodiles, and many extraordinary stories are told of them.

In Kedah, in May and June 1898, I found this species as numerous as I had previously in April 1895. In the Prye and other rivers of the Province Wellesley there are still many crocodiles; I have seen specimens in Mr. A. G. B. Van Sommeren's collection at "Strawberry," Penang Hill, and in the possession of Mr. A. H. B. Dennys. In Perak it is also numerous, as testified by specimens in the Taiping Museum. Col. Frowd Walker, C.M.G., has a specimen caught in the lake of the Taiping public park; and Captain Duff, of the s.s. 'Thaipeng,' which runs between Georgetown, Penang, and Port Weld, Perak, tells me he frequently sees them in the estuaries of Larut. In the museum at Kuala Lumpor there are many specimens killed in Selangor. In the quieter parts of Singapore Island crocodiles can always be found, and at times they even wander into the busiest parts. I hear, on good authority, that one was shot in the spring of 1898 from the Tanjong Pagar wharf, where all the big steamers from Europe, India, and China lie, and day and night there is a constant bustle of men, mails, cargo, and coal.

This species is also found on the coast of Johore, and there is a skull from Pahang, on the east side of the Peninsula, in the Taiping Museum. The Siamese Museum contains specimens from the Tacheen river and from Ayuthia, and I have met them myself on the Bangpakong river, between Pachim and Patriew. In Bangkok crocodiles are kept in a tank in the Royal Gardens, and in at least one of the temples.

Nowadays it is not seen wild in the immediate neighbourhood of Bangkok, but in 1778, in Dr. Koenig's journal (J. S. B. R. A. S. no. 26, 1894), we read:—"November 8th: The Crocodiles swam in front of our boat; they often made a dreadful noise, but the people said we had nothing to fear from them here, they are only dangerous further inland . . . Nov. 27th: The people offered the flesh of a big crocodile for sale . . . the tail was best, and had no smell at all. The King of Siam pays for every crocodile . . . in order to extirpate these animals. Therefore the crocodiles are afraid of any boat here, but higher up the country they attack people and eat them;" and such other entries.

Size. The length to which these crocodiles attain is often a matter of discussion, and it is difficult to estimate when they are seen in the water. One from Ayuthia, Siam, I measured was 3·04 metres (10 feet). One shot by Mr. Owen at Serangoon, Singapore, measures as it is now, in the Raffles Museum, 4·7 metres (15 feet 6 inches); but Mr. Owen tells me it was 16 feet in total length in the flesh.

The largest I have seen in Kedah, lying dead on the river-bank, was about 3·67 metres (12 feet).

Col. Frowd Walker, C.M.G., has in his house at Taiping the skull of a crocodile from Perak which measures in total length about 812 mm. (2 feet 8 inches); he tells me the animal was 5·48 metres (18 feet) long, and a noted man-eater, knocking people off the bathing-stages by the river's side.

Mr. J. P. Rodger tells me that about the year 1886 the Government reward was paid for a crocodile killed at Kuala Selangor 5·64 metres (18 feet 6 inches) long. In the Taiping Museum there is a strip of skin, from the snout to the end of the tail, of a crocodile killed at Matang, Perak, presented to the museum by Mr. E. Wagner, and which, Mr. L. Wray informed me, measured 7·51 metres (24 feet 8 inches).

The British Museum Catalogue says "the largest specimen in the collection measures 5·25 metres;" and in reference to a skull from Bawisaul, Bengal, says, in a footnote: "Stated by the donor to have pertained to a specimen 33 feet long, and measuring 13 feet 8 inches round the body."

Dimensions of skulls:—

1st. From Tacheen river, Siam, now in Siamese Museum.

Total length (without lower jaw)	about 901 mm. (2 ft. 11½ in.).
Breadth in front of orbits (following curve)	about 444 mm. (1 ft. 5½ in.).

2nd. Locality unknown, now in Raffles Museum, Singapore.

Total length (with lower jaw?)	about 977 mm. (3 ft. $2\frac{1}{2}$ in.).
Breadth in front of orbits (following curve)	about 438 mm. (1 ft. $5\frac{1}{4}$ in.).

3rd. From Pahang, now in Taiping Museum, presented by Mr. G. F. W. Curtis.

Total length (including lower jaw)	about 901 mm. (2 ft. $11\frac{1}{2}$ in.).
Breadth in front of orbits (following curve)	about 387 mm. (1 ft. $3\frac{1}{4}$ in.).

This specimen is labelled *C. palustris*, but I should call it *C. porosus*.

Colour (in life). Dark olive-brown (sometimes nearly black) and bright lemon-yellow. Iris yellow.

Egg. An egg, supposed to belong to this species, from Johore, given me by Dr. Wilson, measures on its longer axis 80 mm.

Hab. India, Ceylon, Burma, South China, Siam, Malay Peninsula, Java, Borneo, Celebes, Philippines, New Guinea, North Australia, Solomon and Fiji Islands.

27. Crocodilus palustris Lesson.

Crocodilus vulgarus, Cantor, p. 15.

Crocodilus palustris, Günth. Rept. Brit. Ind. p. 61, pl. vii. fig. A; Blgr. Cat. Chel. etc. p. 285; Blgr. Fauna Brit. Ind., Rept. p. 5 (skull fig. p. 2).

The Marsh-Crocodile or Mugger is recorded from the Malay Peninsula on the authority of Cantor, and because of a young specimen from Singapore in the British Museum.

In the Taiping Museum are two skulls which Mr. L. Wray refers to this species, one from Pahang, given by Mr. G. F. W. Curtis (mentioned above), and a rather smaller one from Sapetang, given by Mr. A. T. Dew; but after examining them and comparing them with skulls which Mr. Wray acknowledges to be *C. porosus*, I can see no reason why they should not also be *C. porosus*.

Cantor's account of this species is very interesting, but it is an open question whether he has confused it with *C. porosus* or not. He writes:—"It inhabits not only rivers and estuaries, but also the sea-coasts (Malayan Peninsula and Islands), and may in calm weather be seen floating at a distance of two to three miles from the shore. Although numerous at Pinang and the opposite coast, it appears to be less so than *Crocodilus biporcatus* [i. e. *porosus*]. Fishermen while working the nets are not seldom attacked by crocodiles, and would, but for their presence of mind, oftener than they do, forfeit their lives. When seized they force their fingers into the eyes of the crocodile, which immediately lets go its victim, who is further rescued by his comrades. From 1842 to 1845 amputations from accidents of this description were unfortunately of no rare occurrence in the General Hospital at

Pinang. Individuals 15 ft. in length are not uncommon; some attaining to 20 ft. and upwards are reported to occur. In rivers a single one will often appropriate to himself a limited district, which, if it happens to be in the vicinity of a village, will soon be perceived in the loss of the grazing cattle. Instances of Malays, who, to avenge the loss of a relative, have watched the crocodile, and by diving from below plunged a kris into its heart, are on record. The eggs are white, the shell hard, of a cylindrical form, upwards of 3 in. in length, and about $1\frac{1}{2}$ in. in diameter."

Hab. The British Museum Catalogue gives India, Ceylon, Burma, Malay Peninsula and Archipelago.

Order SQUAMATA.

Suborder LACERTILIA.

Family Geckonidæ.

28. Gymnodactylus marmoratus (Kuhl).

Gymnodactylus marmoratus, Blgr. Cat. Liz. i. p. 44.

Of this species, which has not previously been recorded from the Malay Peninsula, I obtained one specimen on Penang Hill, at an elevation of 2000 feet, on 31st March 1898. Mr. Butler has since sent a specimen from Perak to the British Museum.

Colour (in life). Above warm yellowish brown with very rich dark brown markings, tail banded alternately light and dark. The small tubercles along sides of body show as white spots. Beneath purplish buff, tail yellowish mottled with dark brown. Iris a narrow red ring, remainder yellow, closely vermiculated with dark brown.

Size. Snout to vent 64 mm.; tail (end broken) 50 mm.

Hab. Malay Peninsula, Java, Sumatra, Borneo.

29. Gymnodactylus pulchellus (Gray).

Gymnodactylus pulchellus, Cantor, p. 25; Blgr. Cat. Liz. i. p. 46; S. Flower, P. Z. S. 1896, p. 863.

Localities. Penang Hills, 2000 to 2400 feet. Larut Hills, Perak, 3400 to 4400 feet. Singapore (*vide* British Museum Catalogue).

Habits. Nocturnal, usually living on rocks, sometimes entering houses. They bite fiercely when handled, and can give a sharp pinch.

Colour (in life). Upper surfaces light yellowish brown, with five dark rich brown bands, bordered with white, sulphur- or chrome-yellow. Upper surface of limbs uniform light yellowish brown like the back. Tail light brown (in young specimens nearly white), with sharply defined very dark brown rings; these may be as many as nine in number, and are about twice the width of the pale interspaces; the tip of the tail may be either white or dark brown. Under surfaces bluish buff. Iris golden brown.

Size. The largest I have measured were from Penang Hill.

♂. Total length 259 mm. (snout to vent 115; tail 144); this specimen had about 36 femoral and præanal pores in all. ♀. Snout to vent 100 mm.; tail reproduced.

Hab. Malay Peninsula; said to occur also in Bengal, and found in Tenasserim by Signor Fea.

30. Gonatodes kendalli (Gray).

Gonatodes kendallii, Blgr. Cat. Liz. i. p. 63.

Gonatodes kendalli, S. Flower, P. Z. S. 1896, p. 863.

Kendall's Gecko is known from the Larut Hills in Perak, 4200 to 4600 feet (Mr. L. Wray), and I have obtained it in the same hills at 3400 feet. It is also found on Bukit Timah, Singapore, at under 500 feet elevation (Mr. H. N. Ridley).

Colour (in life). Above yellow, extensively marked with reddish brown, and with certain dark brown markings; tail alternately banded yellow and reddish brown. Below purplish grey, except tail, which is as above, but less distinct. Iris orange.

Hab. Malay Peninsula and Borneo.

31. Gonatodes affinis (Stol.).

Cyrtodactylus affinis, Stol. Journ. As. Soc. Beng. xxxix. 1870, p. 167, pl. x. fig. 1.

Gymnodactylus affinis, Blgr. Cat. Liz. i. p. 42; S. Flower, P. Z. S. 1896, p. 862.

Gonatodes penangensis, S. Flower, P. Z. S. 1896, p. 863, pl. xliv. fig. 1.

Gonatodes affinis, S. Flower, P. Z. S. 1898, p. 455.

This Gecko inhabits the caves among the granite rocks on Penang Hill, 2200 to 2400 feet above the sea. I also obtained a specimen in the Batu Caves, Selangor; it was a male and had *eight* præanal pores; it resembled the Penang specimens in colouring; the yellow bands across the upper surface were very bright and distinct, giving the Lizard a striking appearance.

Hab. Malay Peninsula.

32. Æluroscalabotes felinus (Gthr.).

Pentadactylus felinus, Günth. Rept. Brit. Ind. p. 117, pl. xii. fig. 8.

Ælurosaurus felinus, Blgr. Cat. Liz. i. p. 73.

Æluroscalabotes felinus, Blgr. op. cit. iii. p. 482.

This species, first described from a Singapore specimen, does not seem to have been again caught in the Straits Settlements.

In the Taiping Museum, in May 1898, I saw, but did not have time to examine, some interesting Geckoes which may perhaps belong to this or some allied species.

Hab. Malay Peninsula and Borneo.

33. Phyllodactylus siamensis Blgr.

Phyllodactylus siamensis, Blgr. P. Z. S. 1898, p. 918, pl. lv. fig. 1.

Localities. The first two specimens of this little Gecko were

from M. Pran and Hinlap: subsequently, in Nov. 1897, I caught two more under stones in the jungle near Hinlap (Dong Phya Fai), elevation about 700 feet.

Colour (in life). Above brown, spotted very strongly with black. Below grey, mottled with purple. Underneath of head brown. Labials marked with dark purplish brown and pale yellowish brown.

Size. Total length 86 mm. (snout to vent 42; tail 44).

Hab. Siam.

The three species of small House-Geckoes, *Hemidactylus frenatus*, *Hemidactylus platyurus*, and *Gehyra mutilata*, resemble each other in habits, and are collectively called, both by Europeans and natives, by onomatopoetic names:—

Siamese: "ching-chok."

Malay: "chichak" (pronounced "chee-chah").

34. HEMIDACTYLUS FRENATUS (Schleg.).

Hemidactylus frenatus, Cantor, p. 23; Stol. J. A. S. B. 1870, p. 104; Blgr. Cat. Liz. i. p. 120; S. Flower, P. Z. S. 1896, p. 865.

Localities. This seems the commonest House-Gecko throughout the Malay Peninsula and Siam; I have obtained it in the following places:—Penang, from sea-level up to 2260 feet elevation; Pulo Tikus (Rat Island) near Penang; Perak, from Matang (sea-level), Taiping, Kuala Kangsa, Ipoh and Batu Gajah; Selangor, from Kuala Lumpor; Johore, from Johore Bahru and from Dumdruan Estate, Gunong Pulai; Kedah, from Alor Star; Siam, from Bangkok, Ayuthia, Pakpreo, Pachim, Tahkamen, Bortong Kabin, and Chantaboon. I have not seen this species in Singapore, but Cantor records it from there, and there can be no reason why it should not be as numerous there as elsewhere. This Gecko was numerous on a boat in which we travelled for some weeks on the Bangpakong river, and I have also caught it at sea on board a steamer plying between Hongkong, Bangkok, Singapore, and West Australia, which helps to show how the species may have got its present wide distribution.

Habits. It frequents houses, gardens, and the open country (where it hides under stones during the daytime), but indoors it is by no means strictly nocturnal. If kept in confinement, it will eat mealworms readily.

Colour. The adult seems to have considerable power in changing its colour; usually it is buff or ashy brown, but I have seen individuals very dark brown, almost black. The markings also come and go, but a darkish-brown line on the side of the head, passing through the eye, is usually constant and edged with yellow above. The young (like those of *Gehyra mutilata*) are very prettily marked: the upper surface is brown with darker and lighter spots, a darker lateral line, tail ringed alternately dark brown and yellow; lower surface immaculate buff, except the tail, which may be coral-red.

Size. The largest specimens I have measured were:—
♂. From Borneo, total length 132 mm. (snt. to vnt. 64; tail 68).
♀. From Perak, total length 109 mm. (snt. to vnt. 55; tail 54). The width of the head in this specimen was 11 mm., and in a ♂ of about the same size 12·5 mm.

Hab. Southern India, Ceylon (I found this species very numerous in houses at Colombo), Andamans, Burma, Siam, Cambodia, China, Hainan, Formosa, Malay Peninsula, Nias, Java, Borneo (I found it at Kudat and Brunei), Philippines, Celebes, Lombok, Sumba, Savu, Ombaai, Ké Islands, North Australia, Amirantes, Mauritius, St. Helena, and Somaliland.

35. Hemidactylus brookii Gray.

Hemidactylus maculatus, part., Günth. Rept. Brit. Ind. p. 107.
Hemidactylus gleadovii, Blgr. Cat. Liz. i. p. 129; Blgr. Fauna Brit. Ind., Rept. p. 86 (figured); S. Flower, P. Z. S. 1896, p. 865.
Hemidactylus brookii, Blgr. Cat. Liz. i. p. 128; Blgr. A. M. N. H. 1898, i. p. 123.

Hab. India, Ceylon, Burma, South China, Malay Peninsula, Borneo, Ombaai, and Tropical Africa.

36. Hemidactylus depressus Gray.

Hemidactylus depressus, Blgr. Cat. Liz. i. p. 134.

Hab. Ceylon, Malay Peninsula.

37. Hemidactylus leschenaulti D. & B.

Hemidactylus leschenaultii, Blgr. Cat. Liz. i. p. 136.

Hab. India, Ceylon, Malay Peninsula.

38. Hemidactylus coctæi D. & B.

Hemidactylus coctæi, Cantor, p. 23; Blgr. Cat. Liz. i. p. 137.

Hab. India, Malay Peninsula.

These four species, *brookii*, *depressus*, *leschenaulti*, and *coctæi*, must be either very rare or local in the Straits Settlements; I have nothing to add to what is recorded of them in the P. Z. S. 1896, p. 865.

39. Hemidactylus platyurus (Schneid.).

Nycteridium schneideri, Günth. Rept. Brit. Ind. p. 111.
Hemidactylus platyurus, Blgr. Cat. Liz. i. p. 143.

The Parachute House-Gecko was recorded from Penang by both Cantor and Stoliczka; it is apparently rare there now, as I have only met a single individual, in Georgetown, November 1896. In Singapore, however, it is very numerous in many houses, though curiously it does not seem to have been hitherto recorded from there. So far I have never seen it on the mainland of the Peninsula. In Siam we found it common in houses and gardens (and river-boats) in Bangkok, Ayuthia, Tahkamen, Paknam Kabin, Bortong

Kabin, and Chantaboon; and also received a specimen from Kosichang.

Colour (in life). As mentioned by Cantor, the young and adult are similarly marked and coloured, thus differing from the other common house species, i. e. *H. frenatus* and *Gehyra mutilata*. This species also seems to have but little power of changing its colour and so (irrespective of its parachute) can be easily identified when seen. Above grey, more or less mottled or speckled with yellowish brown, with quadrangular dark spots in pairs along the back, each pair being situated on a reddish-brown transverse band; tail with similar dark cross-bands. A dark line on each side of the head passing through the eye. Beneath bright lemon-yellow, pale yellow, or dirty white; tail sometimes is coral-red.

Size. The largest specimens I have measured were from Singapore:—♂. Total length 127 mm. (snt. to vnt. 61; tail 66). ♀. Total length 110 mm. (snt. to vnt. 55; tail 55).

Hab. India, Ceylon, Burma, Siam, Cambodia, South China, Malay Peninsula, Java, Borneo[1], Celebes, Savu, and Philippines.

40. Mimetozoon craspedotus (Mocquard).

Hemidactylus craspedotus, Mocq. Le Natur. 1890, p. 144.
Mimetozoon floweri, Blgr. P. Z. S. 1896, p. 767, pl. xxxvi. - S. Flower, P. Z. S. 1896, p. 866.
Mimetozoon craspedotus, Blgr. P. Z. S. 1898, p. 914.

Hab. Malay Peninsula, Borneo.

41. Gehyra mutilata (Wiegm.).

Hemidactylus peronii, Cantor, p. 22.
Peripia peronii, Stol. J. A. S. B. 1870, p. 163.
Gehyra mutilata, Blgr. Cat. Liz. i. p. 148; S. Flower, P. Z. S. 1896, p. 866.

Localities. This House-Gecko is very common in Penang from sea-level to 2500 feet, and is the commonest species in Singapore. On the Peninsula, however, it does not seem so widely distributed as *Hemidactylus frenatus*; I have only seen it at Alor Star in Kedah, and at Matang (sea-level), Taiping, and Maxwell's Hill (3400 feet) in Perak. I have also found it in on the little island of Pulo Tikus, near Penang. Possibly it has but recently extended to Siam; for though it does not seem to have been previously recorded from there, I found it numerous in houses in Bangkok and Chantaboon, but in both places less so than either *H. frenatus*, *H. platyurus*, or *Gecko verticillatus*, and I never saw it up country, where these three other species were common.

Colour (in life). Adult: usually buff or grey, sometimes nearly white, generally immaculate, but sometimes on the upper surfaces dotted or variegated with darker. Young: upper surfaces yellowish brown (but varies from light yellow to rich purplish brown at different times in the same individual), profusely and distinctly

[1] I obtained this species in Brunei.

marked with larger dark brown or black spots and smaller pale yellow spots; the latter are edged with a narrow dark brown ring and may form four fairly regular longitudinal lines, two of larger yellow spots along the back and one of smaller spots along each side. A dark line on either side, commencing at the snout, passing through the eye, and continuing to the inset of the hind leg; on either side of the head above this dark line is a very distinct line of pale (or bright) yellow spots. The superior margin of the orbit is bordered with minute pale yellow spots. The lips are spotted alternately pale (or bright) yellow and dark brown. Lower surfaces immaculate, varying in colour from pale buff to grey or purplish brown. Sometimes the colour of the upper and lower surfaces do not merge into each other, but join in a well-defined line along the sides of the neck, body, and limbs. Tail ringed with broad dark brown bands, separated by narrow pale yellow interspaces. Iris golden.

Size. Males and females attain the same length, 120 mm. Snout to vent 60 mm. Length of tail 60 mm. Width of head 12 mm. The very depressed tail may measure at its broadest part a quarter of its length.

Hab. Ceylon, Burma, Siam, Malay Peninsula, Sumatra, Borneo (where I met it at Brunei), Celebes, Sumba, Ombaai, Philippines, Timor Laut, New Guinea, Mascarene Islands, Seychelles, and Western Mexico.

42. Lepidodactylus ceylonensis Blgr.

Lepidodactylus ceylonensis, Blgr. Cat. Liz. i. p. 164, pl. xiii. fig. 3; S. Flower, P. Z. S. 1896, p. 867.

I caught a second specimen in Government House, Singapore, in October 1897. Total length 60 mm. (snt. to vnt. 32; tail 28).

Colour. Very similar to the first Singapore specimen.

Hab. Ceylon, Burma, Malay Peninsula, Engaño, Java, Borneo.

43. Lepidodactylus lugubris (D. & B.).

Platydactylus lugubris, Cantor, p. 16.
Peripia cantoris, Günth. Rept. Brit. Ind. p. 110.
Lepidodactylus lugubris, Blgr. Cat. Liz. i. p. 165.

Not recorded from the Straits Settlements since Cantor's time.

Hab. Malay Peninsula, Bintang, Celebes, Amboyna, New Guinea, and Polynesia.

44. Gecko verticillatus (Laur.).

Platydactylus gecko, Cantor, p. 17.
Gecko guttatus, Günth. Rept. Brit. Ind. p. 102.
Gecko verticillatus, Blgr. Cat. Liz. i. p. 183.

"Toké" of the Malays (*apud* Cantor).

Siamese. "Tokay."

Localities. The Great House-Lizard or Tokay is recorded from Penang, Singapore, and the Malay Peninsula, but it must be very

rare or local; I have not met it myself there, nor remember meeting any Englishman who had seen it for certain, but men have told me they have heard it in parts of Perak and Pahang. In Siam, however, it is one of the commonest animals that attracts the attention of everybody, however unobservant or indifferent to natural history: I have met it in Bangkok, Ayuthia, Pakpreo, Patriew, Pachim, Tahkamen, and Chantaboon.

Habits. The Tokay is very numerous both in towns and country in Siam, almost every house is inhabited by one or more, and they do not shun the busiest places; for instance, two or three of these striking lizards are to be seen any evening in either the Club or Oriental Hotel in Bangkok, playing and feeding on the walls, perfectly indifferent to the buzz of conversation and click of billiard-balls. Each Tokay usually has its particular hole or crevice which it sleeps in regularly every day, and retires to at any time if frightened. It gets its popular name from its remarkable loud call. Each call consists of, 1st, one "preliminary cackle" (or sometimes two); 2nd, the word *to-kay* very distinctly and deliberately pronounced and repeated usually six, seven, or eight times, though I have counted it eleven times. This cry of "tokay" can be distinctly heard at 120 paces (approximately 100 yards) from the spot where the lizard is calling. Besides this well-known loud call, the Tokay when alarmed or angry can make a strong hissing or puffing noise in a threatening manner, at the same time blowing the sides of its body in and out and opening its mouth wide ready to bite.

The Tokay (in Bangkok) commences calling in December; the 5th is the earliest date I have heard it, but it does not become usual till the latter part of the month. In January it is to be heard at intervals almost every evening, especially towards the end of the month. In February it is more frequent at night and occasionally to be heard during the day. In the hot weather of March, April, and May it is often to be heard calling all night long, in one direction or another; in the old Wang Na (2nd King's Palace) in Bangkok, on particularly hot nights, the noise of "tokay, tokay" was almost continuous, one lizard after another taking up the cry; at this season, too, it is not unusual to hear one calling in the morning or at midday. In June it becomes much quieter, till in the first half of July often only one will be heard during a whole evening. In 1897 the last Tokay heard calling that I have a note of was on July 20th, in 1898 July 17th, and once again on August 14. During the autumn, so far as my experience goes, it remains mute and begins again in December.

The little house-lizards (*Hemidactylus frenatus*, *H. platyurus*, and *Gehyra mutilata*), though, are almost as noisy in July and November as in the spring; their cry of "tok, tok, tok," repeated five to eight times with increased celerity, is a very different thing to the resonant, measured call of *Gecko verticillatus*.

In March 1897, in the jungle to the south of Tahkamen, in Eastern Siam, I heard the ordinary preliminary cackle of this

lizard, but instead of following it with "to-kay," it shouted "tuk-tu, tuk-tu" several times. I could not see anything, so do not know whether the author of the cry was *Gecko verticillatus* or not, but I have seen it stated in books that the call of *G. verticillatus* (at any rate in Burma) is "tuk-tu."

When caught the Tokay, young or old, tries hard to defend itself by biting. It is of a bold and inquisitive nature. One day I held up the lash end of a cutting-whip to one looking out of a hole in the wall, and moved the lash about: this interested him very much; he came right out after it and seized it in his mouth, so I let go, and while against the smooth vertical wall the lizard supported the whole weight of the whip in his mouth, but after an unsuccessful attempt to drag it into his hole, he gave up and dropped it.

I am afraid the Tokay, besides its regular food of insects, eats the smaller house-geckoes and its own young, for, though I have never actually seen one do so, specimens of *Hemidactylus frenatus*, *Gehyra mutilata*, and young *Gecko verticillatus* which I have placed in the same glass case as an adult Tokay generally disappeared in a day or two, and there was no hole by which they could have got out of the cage. A Tokay has been seen to catch and eat a mouse, and it is supposed they catch small birds in trees at night.

The Tokay falls a victim at times to the Green and Black Tree-Snake, *Chrysopelea ornata*, but not without a prolonged struggle. Several instances of this have come before my notice. In one a snake 1459 mm. long eventually swallowed a Tokay 311 mm. long, after some hours of fighting; most of the time each animal held the other firmly in its jaws, and so intent were they, that they were caught and carried indoors without letting go their hold. Another time a snake 1243 mm. long had a similar encounter with a full-grown Tokay. This took place in the yard of my house at Bangkok; eventually the lizard seemed to grow quite stupefied or paralyzed, and fell an easy prey to the snake.

Popular beliefs.—It is not surprising that many properties are attributed to an animal like the Tokay; even some Europeans believe not only that its bite is fatal, but that the "suction" of its fingers causes painful blisters on the human skin. When a new house is built, its inhabitants anxiously look out for the appearance of a Tokay in it, and from various causes, such as the number of days since the house was finished, or the number of times it calls, they predict such and such a fortune to the house and its inmates; as far as I can make out, the general idea is that the sooner the Tokay makes its appearance the better luck is in store. And in most affairs of life the Siamese attach importance to the cry of the Tokay: thus apparently for a Tokay to call at the birth of a child is good luck, and the oftener it repeats "to-kay" the better.

It also affords the natives a simple form of gambling which requires no apparatus: the stakes and rules having been arranged among the party, they just sit still and wait till a Tokay cries the winning number.

Many people have heard how a hill-fort in India, long supposed to be impregnable, was captured by means of a lizard which went up the perpendicular rock-face, with a cord attached to it, by means of which the attacking soldiers eventually ascended. In Bangkok *it is said* that people's hats are stolen by means of the Tokay. The lizard, with a cord round its body, is let down at night from a roof or veranda over the head of a passer-by in the street; it struggles to find a foothold, touches the hat, seizes it, and next moment is jerked up by the man, watching above, cord in hand, and the astonished victim is at a loss to know whither his hat has suddenly vanished.

Colour (in life). Upper surface and sides of head, body, and limbs grey (varying from pale bluish to very dark rich violet), profusely spotted; the spots are either very pale bluish grey, almost white, or rich brick-red. On the head these spots are fairly symmetrically arranged, the red ones predominate, and the light ones are not so whitish as they are on the body; these latter on the top of the head coalesce more or less into longitudinal lines. On the back the light spots are grouped into narrow transverse bands; usually there is one of these on the neck, one on the shoulders, four between the limbs, and one on the loins. The spots on the limbs are smaller than those on the back, red and light grey, subequal in size and in about equal numbers. The upper surfaces of the digits are similarly marked, the spots being smaller than on the limbs. The nails are pale blue-grey, like the light spots.

Lower surface of head, body, and limbs paler grey than above, whitish on the chin, spotted as above, but the spots are smaller, paler in colour, and not so sharply defined. The lower surfaces of the digits are brownish grey. Tail grey (usually darker than the back, and in young specimens dark violet, almost black), with about eight narrow transverse rings of pale bluish grey (in young specimens almost white). Iris yellow.

Size. The largest specimen I have measured, a male from Bangkok, was snout to vent 178 mm., and width of head 45 mm.; it had lost its tail, which, judging from other specimens, should have been nearly as long as the head and body, which would give the total length of an adult Tokay to be about 356 mm.

Hab. North-eastern India, Burmah, South China, Annam, Siam, Malay Peninsula, Java, Celebes, Lombok, Ombaai, Savu, Sulu Island, Philippines, Timor Laut.

45. Gecko stentor (Cant.).

Platydactylus stentor, Cantor, p. 18.

Gecko smithii, Stol. J. A. S. B. 1870, pp. 161, 162.

Gecko stentor, Günth. Rept. Brit. Ind. p. 102, pl. xi. fig. A; Blgr. Cat. Liz. i. p. 184.

Recorded from Penang by Cantor and Stoliczka.

Hab. Burma, Andamans, Malay Peninsula, Sumatra, Java, Borneo.

46. Gecko monarchus (Schleg.).

Platydactylus monarchus, Cantor, p. 19.
Gecko monarchus, Blgr. Cat. Liz. i. p. 187; S. Flower, P. Z. S. 1896, p. 868.

Very common in certain houses in Singapore, and I have seen one specimen from the Province Wellesley.

Colour (in life). Pale greyish brown, above with very dark brown spots arranged in a symmetrical pattern, below immaculate.

Size. The two largest individuals I have measured were respectively :—

Total length .... 194 mm. (snt. to vnt. 77; tail 117).
„ „ .... 182 mm. („ „ 84; „ 98).

Hab. Ceylon, Malay Peninsula, Sumatra, Nias, Borneo, Celebes, Philippines, Mysol, Amboyna.

47. Ptychozoon homalocephalum (Crev.).

Ptychozoon homalocephalum, Cantor, p. 20; Stol. J. A. S. B. 1870, p. 159; (part.) Blgr. Cat. Liz. i. p. 190; Blgr. Fauna Brit. Ind., Rept. p. 104 (fig. p. 105).

The "Flying Gecko" has been recorded from Penang by Cantor and Stoliczka; I have also obtained one individual there myself at about 2200 feet elevation. Either this or the next species is found in Perak; I have seen a specimen from Ipoh, in that State.

Colour (in life). Cantor's description is very good, but where he writes "white" and "whitish" my Penang specimen was *bright lemon-yellow* and *yellowish*. Tongue and inside of mouth are lilac-grey.

Size. The above mentioned specimen from Penang, a female, measured :—

Total length 128 mm. (snout to vent 65; tail 63).
Width of head (exclusive of dermal flaps) 14·5 mm.
Extent across fully extended parachute 34 mm.

Hab. Burma, Malay Peninsula, and some islands of the Archipelago.

48. Ptychozoon horsfieldi (Gray).

Ptychozoon homalocephalum (part.), Blgr. Cat. Liz. i. p. 190.
Ptychozoon horsfieldi, S. Flower, P. Z. S. 1896, p. 868.

Horsfield's "Flying Gecko" has been recorded from Penang and Singapore. F. Müller (Verh. nat. Ges. Basel, 1892, p. 210) pointed out how *P. horsfieldi* differs from *P. homalocephalum*; these points may be summarized as follows :—

1. The tail has no large rounded flap at the extremity, but gets gradually narrower from the base to the tip. There are 18 lobes on each side, which are directed backwards instead of standing at right angles.

2. There are three equal-sized enlarged shields over the first three upper shields.
3. The ear-opening is not subcircular, but a triangular long slit with the apex pointing downwards.
4. No enlarged tubercles on the back.
5. The ♂ has 38 pores in all, 10 præanal arranged in a chevron, and 14 femoral on each side, with an interval of 8 ordinary scales separating them. Boulenger describes *P. homalocephalum* as having "an angular series of about 25 præanal pores."
6. The ground-colour is reddish brown throughout, several broad distinct black cross-bands on the back and tail.

Hab. Malay Peninsula and some islands of the Archipelago.

Family Agamidæ.

49. Draco volans L.

Draco volans, Cantor, p. 38; Blgr. Cat. Liz. i. p. 256, S. Flower, P. Z. S. 1896, p. 868.

"Chíchak terbang" or "Kubin" of the Malays (*apud* Cantor).

The common Flying Lizard is known from Kedah, Penang, Province Wellesley, the Dindings, Malacca, and Singapore.

Size. Two males caught in Penang in 1898 measured:—

Total length 199 mm. (snt. to vnt. 80; tail 119).
„ „ 235 mm. („ „ 78; „ 127).

Hab. Malay Peninsula (extending into Lower Siam), Sumatra, Nias, Sipora (Mentawei Islands), Java, Borneo.

50. Draco maculatus Cantor.

Draco maculatus, Cantor, p. 39; Blgr. Cat. Liz. i. p. 262.
Draco haasii, Boettger, Zool. Anz. 1893, p. 429.

The Spotted Flying Lizard was obtained by Cantor in the hills of Penang, and by M. Mouhot in Pachebone and Cambodia.

D. haasii was founded on two lizards obtained by the late Dr. Erich Haase on the trunks of trees near the Phrachadee of Kau Sabap, Chantaboon, Siam. The type specimen is now in the Frankfort Museum, and the second in the British Museum. Mr. Boulenger writes that he does "not consider it to be specifically distinct from *D. maculatus*."

Hab. Assam, Burma, Siam, Cambodia, Pulo Condore, Malay Peninsula.

51. Draco fimbriatus Kuhl.

Draco fimbriatus, Blgr. Cat. Liz. i. p. 265.

Only two specimens are recorded from the Straits Settlements (*vide* P. Z. S. 1896, p. 870).

Hab. Malay Peninsula, Sumatra, Java, Borneo.

52. Draco quinquefasciatus Gray.

Draco quinquefasciatus, Blgr. Cat. Liz. i. p. 269, pl. xx. fig. 8.

Besides the two specimens recorded from the Straits Settlements (P. Z. S. 1896, p. 870), Dr. Hanitsch records it from Selangor (Rep. Raffles Libr. & Mus. 1897, p. 9).

Hab. Malay Peninsula, Borneo.

53. Draco tæniopterus Günth.

Draco tæniopterus, Blgr. Cat. Liz. i. p. 269.

The type specimen collected by M. Mouhot was from Chantaboon, where the late Dr. E. Haase also obtained it (Boettger, Zool. Anz. 1893, p. 430). I have examined five individuals from there.

Sex	♂.	♂.	♀.	♀.	Immature.
Total length	185	200	242	190	170 mm.
Snout to vent	75	69	74	65	55 mm.
Tail	110	131	163	125	115 mm.
No. of upper labials	8	9	9+10	8+9	9

Hab. Siam and Tenasserim.

54. Draco melanopogon Blgr.

Draco melanopogon, Blgr. Cat. Liz. iii. p. 492.

Originally described from Malacca. Dr. Hanitsch records it from Singapore (Rep. Raffles Libr. & Mus. 1897, p. 9).

Hab. Malay Peninsula, Borneo, Natunas.

55. Aphaniotis fusca Peters.

Aphaniotis fusca, Blgr. Cat. Liz. i. p. 274.

Hab. Malay Peninsula (2 specimens from Malacca in Brit. Mus.), Borneo, Natunas.

56. Gonyocephalus herveyi Blgr.

Gonyocephalus herveyi, Blgr. Cat. Liz. iii. p. 493.

Hab. Malay Peninsula (1 specimen from Malacca in Brit. Mus.), Natunas.

57. Gonyocephalus borneensis (Schleg.).

Gonyocephalus borneensis, Blgr. Cat. Liz. i. p. 288.

Recorded from Malacca (Blgr. Cat. Liz. iii. p. 493), and from Maxwell's Hill, Perak, elevation 3600 feet (Hanitsch, Rep. Raffles Libr. & Mus. 1897, p. 9).

Hab. Malay Peninsula and Borneo.

58. Gonyocephalus grandis (Gray).

Dilophyrus grandis, Cantor, p. 34, pl. xx.

Gonyocephalus grandis, Blgr. Cat. Liz. i. p. 298.

Not recorded from the Straits Settlements since Cantor's time.

Hab. Burma, Malay Peninsula, Sumatra, Sipora (Mentawei Islands), Borneo.

59. Acanthosaura capra Günth.

Acanthosaura capra, Blgr. Cat. Liz. i. p. 300.

Only known from the type specimens collected by M. Mouhot at Chantaboon, and now in the British Museum.

Hab. Siam.

60. Acanthosaura armata Gray.

Lophyrus armatus, Cantor, p. 32.

Acanthosaura armata, Blgr. Cat. Liz. i. p. 301, pl. xxii. fig. 1.

Of this remarkable-looking lizard I obtained two specimens during March and April, 1898, in Penang, one in a valley and one at 2200 feet elevation in the hills. Cantor writes of it—"At Pinang this species appears to be very local, and not numerous; two individuals were obtained from spice plantations in the valley. They were very active and fierce, possessed in a slight degree the power of changing the ground-colour to a light hue, and in captivity refused food and water." One specimen I kept alive for a short time, however, seemed to have considerable power of changing its colours. The male when angry distends its gular pouch.

In the British Museum are specimens from Gen. Hardwicke's collection labelled Singapore; but one cannot help feeling doubtful of some of the localities of Hardwicke's specimens, and it seems strange that in an island so well known as Singapore, and constantly visited by collectors, this lizard should not have been again secured.

M. Mouhot obtained *A. armata* at Chantaboon, and I have seen a specimen that was shot there in July 1896.

Colour (in life). Upper surfaces—head chestnut, remainder blackish green, a transverse black band in the interval between the cervical and dorsal crests, continued forward over the shoulders; body, limbs, and tail with numerous spots, some of which are clear sky-blue; about seven black lines radiate from the eye. Lower surfaces yellow, tinged with reddish-orange on the chest. Gular pouch pale lilac, in the male. Tongue and inside of mouth bright orange-colour. Iris brown with a narrow golden ring.

Size. The Chantaboon specimen when stuffed measured 236 mm. in total length (snt. to vnt. 110; tail 126). The Penang ones when fresh were :—

Sex	♂.	♀.
	mm.	mm.
Total length	208	259
Snout to vent	91	116
Tail	117 (tip broken)	143
Supraocular spine	9·25	9·5
Supertympanic spine	9·3	8·2
Longest nuchal spine	11	11

Hab. Tenasserim, Siam, Cochinchina, and Malay Peninsula.

61. Acanthosaura coronata Günth.

Acanthosaura coronata, Blgr. Cat. Liz. i. p. 303.

Only known from the type specimens collected by M. Mouhot in Chantaboon, now in the British Museum.

Hab. Siam.

62. Calotes cristatellus (Kuhl).

Bronchochela cristatella, Cantor, p. 30.

Calotes cristatellus, Blgr. Cat. Liz. i. p. 316; S. Flower, P. Z. S. 1896, p. 871.

" Gruning " of the Malays of the Peninsula (*apud* Cantor).

" Sumpah-sumpah "
" Pookah "
} These are the Malay names I have heard applied to this Lizard, and also to *Calotes versicolor*.

Localities. Of this fine lizard, commonly called " Chameleon " by the English in the Straits Settlements, I have seen specimens from Penang (up to 2200 feet), Perak, Selangor, and Singapore; wherever it occurs it seems to be fairly numerous. Dr. Hanitsch records it also from Kemaman (Rep. Raffles Libr. & Mus. 1879, p. 9).

Description. There may be as many as 121 scales round the middle of the body.

Colour. To my previous account of the changes of colour of this species (P. Z. S. 1896, p. 871) may be added :—

1st. Iris, in different individuals, may be rich bright carmine-red, hazel-brown, or dark brown.

2nd. In one phase of colour the head, nuchal crest, body, limbs, and anterior portion of tail are bright grass-brown, with six indistinct dark green transverse bands on the body, and the posterior portion of tail dark brown.

Hab. Tenasserim, Malay Peninsula, Sumatra, Nias, Sipora (Mentawei Islands), Java, Borneo, Celebes, Philippines, Ceram, Mysol, Timor Laut.

N.B.—Calotes smaragdinus (Günth.).

Calotes smaragdinus, Blgr. Cat. Liz. i. p. 319.

This lizard is known from Cambodia, where the types were obtained by M. Mouhot, so it may possibly also occur in Siam.

Hab. Cambodia.

63. Calotes microlepis Blgr.

Calotes microlepis, Blgr. Ann. Mus. Genova, (2) v. 1887, p. 476, pl. vi. fig. 1.

Of this species, which has not before been recorded from Siam, I obtained one specimen from Chantaboon.

Hab. Tenasserim, Siam.

64. Calotes versicolor (Daud.).

Calotes versicolor, Blgr. Cat. Liz. i. p. 321; Blgr. Fauna Brit. Ind., Rept. p. 135, fig. p. 136; S. Flower, P. Z. S. 1896, p. 872.

Siamese. " King-kar."

The Indian Changeable Lizard, known as the "Chameleon" by the English in Siam and as the "Bloodsucker" in Ceylon, does not seem to extend to the southern portion of the Malay Peninsula, though it is numerous in Kedah (both at Alor Star and at Kulim) and fairly common in Penang near sea-level, and I have obtained one specimen in the hills there at an elevation of 2200 feet. Dr. Hanitsch records a specimen from the Province Wellesley (Rep. Raffles Libr. & Mus. 1897, p. 9).

In Siam this is the commonest Agamoid; there are specimens in the British Museum from Pachebone collected by M. Mouhot, and I have met the species in Bangkok, Ayuthia, Pakpreo, Hinlap (Dong Phya Fai, elevation 700 feet), Tahkamen, Kabin, Chantaboon, and on the island of Kosichang.

Description. In Siamese specimens I have counted from 42 to 57 scales round the middle of the body.

Colour (in life). Upper surfaces nearly uniform pale brown (either greyish, olive, yellowish, or rufous), with five to seven more or less distinct darker brown transverse bands on the back (these sometimes do not meet symmetrically in the centre line of the back), which are interrupted by a more or less strongly defined light (white, buff, or bright yellow) dorso-lateral longitudinal line (about $1\frac{1}{2}$ to 2 scales wide) on each side, which line reaches from the neck to the tail, where it gradually disappears; these light longitudinal lines may be bordered above and below by very narrow black lines. The upper surfaces of the limbs and digits are cross-barred with brown. The tail is frequently ringed with dark brown, the dark rings being nearly black anteriorly and about twice the width of the pale interspaces. Lower surfaces very pale buff, frequently with faint darkish longitudinal lines on the neck, down the centre of the abdomen, and under the thighs.

A noticeable and apparently constant feature of this species is the dark lines radiating from the eye, and the top of the head is more or less marked.

Typical Bangkok specimens have well-defined rich dark brown markings on the head, as follows:—

A faint chevron (pointing backwards) on the snout, 3 indistinct cross-bars on the forehead, two fine crescentic lines (pointing backwards) joined by a transverse line behind the eyes, a pair of black spots on the nape (with a very small white spot in the centre and another outside each); both upper and lower labials alternately light and dark; 9 lines radiate from the eye, one goes forwards and downwards to the upper labials, another goes backwards and downwards to the upper labials and is continued in the same direction on the lower jaw, another is directed to the tympanum, another is directed backwards and upwards and converges with its fellow on the opposite side, meeting on the back of the neck at about the eighth nuchal spine; there is another cross-bar on the neck at about the twelfth nuchal spine.

The *gular pouch* at certain times of year (noted in May [Kedah] and in November [Hinlap]) is very conspicuous, eing white, or

white speckled with red; so far as I have observed, it is only in the males that the pouch becomes distended. In January [Chantaboon] the males had the head, neck, upper arms, and fore part of the body diffused with bright red, which gave them a striking appearance. In spirits the gular pouch becomes hardly noticeable. Iris reddish brown. Inside of mouth flesh-colour.

Size. The largest individuals of their respective sexes, out of a large series that I have measured, are :—

♂ from Alor Star, Kedah. Total length 376 mm. (snt. to vnt. 95; tail 281).

♀ from Sepoy Lines, Penang. Total length 332 mm. (snt. to vnt. 86; tail 246).

The nuchal spines attain a length of 5·2 mm.

Hab. Afghanistan, Beloochistan, India, Ceylon, Burma, Siam, South China, Malay Peninsula.

65. Calotes emma Gray.

Calotes emma, Blgr. Cat. Liz. i. p. 324, pl. xxv. fig. 1.

I have obtained one specimen from Chantaboon. Also a lizard, said to have been caught in Bangkok, ♂, total length 296 mm. (snt. to vnt. 84; tail 212), with about 72 scales round the middle of the body, which I sent to the British Museum, "appears to be an abnormal *C. emma*," on the authority of Mr. Boulenger.

Hab. Burma, Siam.

66. Calotes mystaceus D. & B.

Calotes mystaceus, Blgr. Cat. Liz. i. p. 325.

M. Mouhot obtained a specimen in Cambodia, and I received two from Chantaboon.

Hab. Ceylon, Burma, Nicobars, Siam, Cambodia.

67. Physignathus mentager Günth.

Physignathus mentager, Günth. Rept. Brit. Ind. p. 153, pl. xv.; Blgr. Cat. Liz. i. p. 400.

Siamese. "King-kar-kong."

This fine lizard was described from a specimen obtained at Chantaboon by M. Mouhot, who also got the species at Pachebone. I received one from Chantaboon, and though the tip of the tail was broken off it measured in total length 620 mm. (snt. to vnt. 250; tail 370); it had eleven enlarged shields on either side of the throat.

In the Siamese Museum is a rather smaller specimen with ten enlarged shields on either side of the throat.

Hab. Siam.

N.B.—Physignathus cochinchinensis (Guérin).

Physignathus cochinchinensis, Blgr. Cat. Liz. i. p. 399.

This lizard is known from Cochinchina, so may possibly also occur in Siam. A lizard in the Siamese Museum, labelled by

Dr. E. Haase "*Physignathus cochinchinensis*, Siam," I consider to be really *P. mentager*.

Hab. Cochinchina.

68. Liolepis bellii (Gray).

Liolepis bellii, Cantor, p. 41 ; Blgr. Cat. Liz. i. p. 403.
Liolepis belliana, Blgr. Fauna Brit. Ind., Rept. p. 156.
Liolepis guttatus, W. Davison, J. S. B. R. A. S. 1889, pp. 88 & 190.
Siamese. "Tooa-yaa."

For brilliancy and beauty of colour few animals can vie with this lizard. Although Cantor was such an admirable observer of natural history, it seems probable that when he wrote of this lizard "leaping from branch to branch," it was conjecture or what he had been told of its habits, and not what he had actually seen ; for, on the authority of Theobald and Davison, we know that it is terrestrial and a burrower, and Mr. Ridley has told me the same and also that it frequents sandy localities, where it makes its burrows. Personally, I have not seen its burrows, but when coming on an individual among a grove of bushes it made off by running on the ground, instead of climbing into a bush as the arboreal Agamoids do. It is diurnal, and in spite of its rather heavy build can run very quickly (as Cantor also remarked). Some classes of Siamese and Laos eat this lizard, and esteem it a delicacy.

Localities. Province Wellesley (*Cantor*), Kalantan and on the Rumpin River in Pahang (*Davison*); and I have seen specimens from three places in Siam—Pakpreo, Anghin, and Chantaboon.

Colour (in life). The following description is of a specimen from Pakpreo (which, it will be seen, differs somewhat from Cantor's Province Wellesley specimens):—

Upper surface of head, neck, body, and limbs yellowish olive-green, a few small yellow spots on the neck ; the back has very distinct black-ringed, round, bright yellow spots, on the posterior part of the body these spots coalesce to form a dorso-lateral line of yellow and black ; the fore limbs are indistinctly spotted with yellow and orange, the hind limbs very distinctly spotted with yellow. The sides of body are rich dark blue, with about eight large and several small bright orange-red spots ; below the dark blue and orange the sides are bright lemon-yellow, which merges gradually into the pale grey of the belly. Lips and sides of head pale blue-grey, with very faint orange spots. The underneath of head, neck, body, and limbs very pale blue-grey. On the fore part of the thigh and on the upper surface of the foot are patches of bright cobalt-blue. Tail yellowish olive-green above, with numerous minute yellow spots ; the sides are a lighter, brighter green and immaculate ; the lower surface is very pale yellowish green.

Size. The Pakpreo specimen, above described, measured in total length 338 mm. (snt. to vnt. 120 ; tail 218). A specimen from Anghin was larger, having snout to vent 152 mm., but a broken tail.

Hab. Southern India, Burma, Southern China, Siam, Cambodia, Malay Peninsula.

N.B.—Cantor adds to his account of *L. bellii*: "There seems to be reason to believe that *Leiolepis reevesii*, Gray, inhabiting 'China' and Arracan, is also found on the Malayan Peninsula."

L. reevesii is now included as a synonym of *L. bellii*, vide British Museum Catalogue Liz. i. p. 403.

Family Varanidæ.

69. Varanus flavescens (Gray).

Varanus flavescens, Blgr. Cat. Liz. ii. p. 309.

One specimen recorded from Penang (Cantor, p. 28).

Hab. Northern India, Burma, Malay Peninsula.

70. Varanus nebulosus (Gray).

Varanus nebulosus, Blgr. Cat. Liz. ii. p. 311.

Recorded from Penang Hills (Cantor, p. 27), Malacca (Blgr. Cat. Liz. iii. p. 505), and Singapore (Hanitsch, Rep. Raffles Libr. & Museum, 1897, p. 9).

I received a specimen from Petchaburee, Siam; it measured, snout to vent about 255 mm., the tail was broken. The native who obtained it said its Siamese name was "takoat."

Hab. Bengal, Burma, Siam, Malay Peninsula.

71. Varanus rudicollis Gray.

Varanus rudicollis, Blgr. Cat. Liz. ii. p. 313.

Recorded from Malacca (Blgr. Cat. Liz. iii. p. 505).

Hab. Malay Peninsula, Borneo, Philippines.

72. Varanus salvator (Laur.).

Hydrosaurus salvator, Günth. Rept. Brit. Ind. p. 67, pl. ix. fig. E.

Varanus salvator, Cantor, p. 29; Blgr. Cat. Liz. ii. p. 314; Blgr. Fauna Brit. Ind., Rept. p. 166 (head fig. p. 162); S. Flower, P. Z. S. 1896, p. 873.

Siamese. "Hee-air."

"Beyáwak" of the Malays (*apud* Cantor).

"Bey-wah" of the Malays, as commonly pronounced.

"Iguana" of the English in India, Siam, and the Straits Settlements.

This great Water-Lizard is very numerous in suitable localities throughout the Malay Peninsula and Siam. Cantor records it from Penang. I have met it in Kedah, Perak, Singapore, on the Menam river (Bangkok and Ayuthia), and on the Bangpakong river (Patriew, Pachim, and Harttachang). It is recorded from Pahang (H. J. Kelsall, J. S. B. R. A. S. 1894, p. 34, and R. Hanitsch, Rep. Raffles Libr. & Mus. 1897, p. 9); and there are

stuffed specimens in the Siamese Museum from Prachai and Angtong.

Hab. Ceylon, Nepal, Bengal, Burma, Siam, China, Malay Peninsula, Sumatra, Java, Borneo (where I obtained specimens from Kudat), Celebes, Lombok, Flores, Sumba, Philippines, and Cape York, N. Australia.

Family Lacertidæ.

Tachydromus sexlineatus Daud.

Tachydromus sexlineatus, Blgr. Cat. Liz. iii. p. 4.

This lizard, which has been recorded from both Burma and Cochinchina, will probably be eventually found in Siam.

Hab. Sikhim, Assam, Khasi Hills, Burma, South China, Cochinchina, Java, Borneo, and possibly Japan.

Family Scincidæ.

The Skinks present more difficulties in identification than the other families of East-Indian lizards, owing to the large number of closely allied species and to the varieties of colours in different individuals of some of the species; moreover, they are more difficult to collect owing to their extreme agility, and the naturalist who wishes to do so and to observe their habits must be prepared to remain motionless, while he watches them, sometimes for hours, under a scorching tropical sun. *Mabuia multifasciata* and *M. siamensis* are particularly sun-lovers, preferring to bask and play in the hottest spots; *Lygosoma bowringii*, however, is crepuscular, and *L. chalcides* a burrower. Some species frequent the sea-shore between tide-marks, *Lygosoma atrocostatum* I found on a rock which was covered at high water, and *L. parietale* we found on the coast of Brunei, Borneo, on the mud of the mangrove swamps; we saw large numbers of this species, which, when running, carries its tail raised in a stiff curl over the back, a peculiarity I have not observed in any other skink. As a rule skinks avoid water, but *Mabuia multifasciata*. to avoid capture, will readily plunge into a stream or pond and swim away.

73. Mabuia novemcarinata (And.).

Mabuia novemcarinata, Blgr. Cat. Liz. iii. p. 179.

Recorded from Penang (S. Flower, P. Z. S. 1896, p. 873).

Hab. Burma, Malay Peninsula.

74. Mabuia macularia (Blyth).

Mabuia macularia, Blgr. Cat. Liz. iii. p. 182.

M. Mouhot obtained this Skink in Cambodia, and I received three specimens from Kosichang, Gulf of Siam; the largest measured 141 mm. in total length (snt. to vnt. 61; tail 80).

Hab. Central and North-eastern India, Burma, Siam, Cambodia.

75. Mabuia rugifera (Stol.).

Mabuia rugifera, Blgr. Cat. Liz. iii. p. 184.

Of this handsomely marked and remarkably scaled species, which has not previously been recorded from the Malay Peninsula, I obtained one specimen near the entrance of the Batu Caves, Selangor, in June 1898, and one in the jungle on Bukit Timah, Singapore, in Sept. 1898. In the latter the sides and underneath of the head and neck were a beautiful orange-red in life; it measured 182 mm. in total length (snt. to vnt. 56, tail 126).

Hab. Nicobars, Malay Peninsula, Nias, Sipora (Mentawei Islands), Java, Borneo.

76. Mabuia multifasciata (Kuhl).

Euprepes rufescens, Cantor, p. 46.

Mabuia multifasciata, Blgr. Cat. Liz. iii. p. 186; S. Flower, P. Z. S. 1896, p. 874.

Siamese. "Ching-lane."

Malay. "Menkarong" and "bengkarong."

Localities. This is the common "Sun Lizard" or "Grass Lizard" of the Straits Settlements and is also very numerous in parts of Siam. I have met it in Kedah (Alor Star and Jenan), in Penang, in Province Wellesley (Butterworth), in Perak (Larut Hills, 3300 feet elevation), in Singapore, in Bangkok, in Ayuthia, and in the Dong Phya Fai (at Hinlap, 700 feet elevation).

Habits. Food consists of insects, especially crickets and cockroaches.

Description. (Drawn up from thirteen specimens from five different localities.) Snout moderate, obtuse. Lower eyelid scaly. Nostril behind the vertical of the suture between the rostral and the first labial; a postnasal; anterior loreal not deeper than the second, usually in contact with the first labial, in one specimen but slightly so, and in one specimen not in contact with it; supranasals not in contact behind the rostral in eight specimens, in contact in two specimens (in three this point was not noted); frontonasal broader than long, frequently much broader; præfrontals in contact mesially; frontal slightly shorter than the frontoparietals and interparietal together (in one specimen it is as long); frontal in contact with the second supraocular (in one specimen in contact with the first and second supraoculars); four supraoculars, second largest; normally six supraciliaries, first largest, but not unfrequently the fourth and fifth supraciliaries are fused into one shield, which is then the largest, or else the second and third may be welded together; frontoparietals distinct, in two specimens shorter, but usually larger, than the interparietal, which entirely separates the parietals; a pair of nuchals; four labials anterior to the subocular (except in a specimen from Ayuthia, which has on each side only three); subocular large and not narrowed inferiorly. Ear-opening roundish oval, about as large as a lateral scale, with a few (three, four, or five) small white lobules anteriorly (except in a specimen from

Bangkok, in which they were entirely absent[1]). 30 to 32 scales round the middle of the body, usually 32 (31 in two individuals and 30 in three), subequal; dorsals mostly distinctly tricarinate (in one specimen there are also from one to two subsidiary keels); nuchals less strongly keeled; laterals very feebly keeled; ventrals smooth. The hind limb reaches the elbow of the adpressed fore-limb. Subdigital lamellæ smooth. Scales on upper surface of arms smooth or very feebly keeled, on upper surface of legs feebly keeled.

Colour (in life). These lizards vary so much in colour and markings that they might be separated into an infinite number of varieties; but it seems to me (at any rate so far as Siamese and Peninsular specimens are concerned) that such divisions would be very artificial. There are certain broad distinctions which can be easily pointed out in selected individuals; but, with a large series before me, I find attempts to define varieties break down, also individual lizards vary at different seasons and under different conditions. An account of the colours of specimens from Borneo by Mr. Edward Bartlett will be found in the Journal, Straits Branch, Royal Asiatic Society, Aug. 1895, pp. 87, 90 & 91.

Bangkok and Ayuthia specimens are usually distinguished by a broad dark line along each side, separated from the brown back by a narrow pale line; thus they almost exactly resemble *M. siamensis* in colour; but specimens without the dark lateral line and with red sides instead (as is usual with Peninsular specimens) also occur.

Coloration of numerous specimens from the 8 localities mentioned on p. 645.—Above rich olive-green, yellowish olive, pale olive-brown, olive-brown, bronze-brown, or bronze; the back either uniform and immaculate ("Var. E, Duméril and Bibron" *apud* Cantor), or with small black spots which sometimes form five longitudinal black lines ("Var. D, D. & B." *apud* Cantor).

I. On each side, starting from the snout, passing through the eye and continuing on to the tail, a broad rich-dark-brown line.

II. Or on each side, starting from above and behind the ear and continuing either halfway down the body or to the inset of the hind leg, a broad red line, highly iridescent, changing to gold, orange, crimson, and green, as the light plays on the living animal ("Var. F, D. & B." *apud* Cantor, but I have never seen the "square *sky-blue* spots" he mentions). This line is broadest and brightest behind the shoulder.

III. Or the sides may be olive (like the back) with iridescent bronze-red lights, and a line of small black spots where the yellowish upper surface meets the red of the sides.

A well-defined pale buff or yellow (sometimes iridescent) dorso-lateral line, nearly two scales wide, is frequently present (invariably so in Bangkok and Ayuthia specimens that I have examined), which may be margined anteriorly and inferiorly with black spots.

[1] This specimen had some of the dorsal and hind-limb scales bicarinate; possibly it may be a hybrid between *M. multifasciata* and *M. siamensis*.

In some specimens this line starts from behind the nostril, passes above the eye and continues along the neck, sides of the back, and anterior third of the tail, where it gradually disappears.

The sides of the body and tail may be ornamented with a varying number (in some specimens none) of distinct or irregular yellow or white ocelli, each of which may be broadly edged above and below with black.

The sides of the head may be olive-brown or reddish olive (when not dark brown, as under I.), and the sutures between some or all of the shields on the top and sides of the head may be distinctly outlined in black ("Var. D, D. & B." *apud* Cantor.).

Limbs above olive-green or brown, with or without longitudinal black lines.

Tail above coloured like back, with or without black spots.

Lower surfaces: chin and throat bluish white, whitish, or yellowish like the body; body bright sulphur or pale greenish yellow; limbs sulphur or pale greenish yellow; tail yellowish anteriorly, olive-brown posteriorly.

Iris reddish orange, marked with dark bronze, yellowish bronze, or "black with a golden circular ring" (Cantor).

Inside of mouth purplish grey. Tongue purplish, sometimes nearly black.

Size. *Mabuia multifasciata* grows to a larger size than the other Skinks inhabiting this region; a male from Bangkok measures:—Total length 275 mm. (snt. to vnt. 120, tail 155); arm 31 mm.; leg 50 mm. This specimen has, however, a short tail; in proportion to those of smaller specimens the tail might have been 276 mm., which would give a total length of almost 400 mm.

Hab. Eastern Himalayas (?), Burma, Siam, Malay Peninsula, Nias, Java, Borneo, Celebes, Ternate, Gilolo, N. Ceram, Timor Laut, Lombok, Ombaai, Philippines.

77. Mabuia siamensis (Günther).

Mabuia siamensis, Blgr. Cat. Liz. iii. p. 188.

Siamese. "Ching-lane."

The type specimen was collected by M. Mouhot in Siam. I found this species very numerous in Bangkok; it is found in the same localities as *Mabuia multifasciata*, which it resembles in habits and general appearance, and to which it is *very closely* allied.

Description. (Drawn up from eighteen Bangkok specimens.) Snout moderate, obtuse. Lower eyelid scaly. Nostril behind the vertical of the suture between the rostral and the first labial; a postnasal; anterior loreal not in contact with the first labial in eight specimens, slightly in contact in eight specimens, and slightly in contact with it on one side of the head, but not in contact on the other side, in one specimen; supranasals not in contact behind the rostral in four specimens, in contact in fourteen specimens; frontonasal about as broad as long, or broader than long; præfrontals in contact mesially in six specimens, not in contact in eleven specimens; frontal shorter than the frontoparietals

and interparietal together; frontal in contact with the second supraocular (in one specimen in contact with the second and third supraoculars); four supraoculars, second largest; normally six supraciliaries, first largest (in one specimen there were six supraciliaries on one side and seven on the other, another specimen had only five); frontoparietals distinct, as long as or slightly shorter than the interparietal, which entirely separates the parietals, except in one specimen, where they just touch each other behind the interparietal; a pair of nuchals; four labials anterior to the subocular, which is large and not narrowed inferiorly. Ear-opening oval and oblique or nearly round, as large as or a little larger than a lateral scale; no projecting lobules. 28 scales round the middle of the body in fourteen specimens, 30 in four specimens; dorsals very slightly larger than the remainder; dorsals distinctly bicarinate in seven specimens, feebly so in one specimen, distinctly tricarinate in two specimens, and in the remainder some are bi- and some tricarinate, the keels being either distinct or indistinct; ventrals very feebly bicarinate or smooth. The hind-limb reaches the elbow of the adpressed fore-limb. Subdigital lamellæ smooth, 24 to 26 under the fourth toe.

Colour (in life). Above bronze-brown, the back generally uniform and immaculate, but sometimes with five more or less distinct narrow longitudinal black lines; along each side from behind the eye to the basal part of the tail a broad black or dark brown line, $2\frac{1}{2}$ to 3 scales wide (in two specimens this dark line was sparsely dotted with light bronze), separated from the bronze back by a narrow, sharply defined, pale yellow line, one scale wide. Labials, sides of neck and body pale sulphur or greenish yellow, usually sharply defined from the dark lateral line above, but in a few specimens spotted with dark brown. Lower surfaces pale or bright emerald, or yellowish green.

Size. Total length 330 mm. (snt. to vnt. 116 mm.; tail 214 mm.); arm 37 mm.; leg 52 mm.; width of head 16·5 mm.

Hab. Siam, Hainan.

78. Mabuia longicaudata (Hallow.).

Mabuia longicaudata, Blgr. Cat. Liz. iii. p. 189.

Hab. Siam.

79. Lygosoma anomalopus Blgr.

Lygosoma anomalopus, Blgr. P. Z. S. 1890, p. 84, pl. xi. fig. 4.

Hab. Malay Peninsula (Penang), Sumatra.

80. Lygosoma maculatum (Blyth).

Lygosoma maculatum, Blgr. Cat. Liz. iii. p. 242.

Localities. Of this skink, which does not seem to have been previously recorded from either the Malay Peninsula or Siam, I have seen twelve specimens. One I got in the Larut Hills, Perak, elevation 1000 feet; one I caught in the jungle of the Dong Phya

Fai (near Muok Lek, elevation 900 feet); one was given me as having been caught in Bangkok; and there were nine in the store of the Siamese Museum, supposed to have been collected by the late Dr. E. Haase at Chantaboon.

Description. On comparing these latter specimens with the description of this species in the British Museum Catalogue, these points were noted:—1st, in some individuals the fifth and sixth labials appear welded into one large shield beneath the eye. 2nd, the number of scales round the body appears large, 40 to 50. 3rd, the hind limb when adpressed is longer, reaching from just in front of the axilla to the shoulder; in the Bangkok specimen it also reaches the shoulder.

Colour (in spirit). Brown or olive-brown above, with more or less distinct darker and lighter spots, sometimes forming two irregular dorsal series of small black spots; a very dark brown lateral line, extending from the nostrils, through the eye, above the ear, and on to the tip of the (unreproduced) tail; this dark line is more or less spotted with white, and edged below (sometimes also above narrowly) with white, and on the tail it is vandyked: flanks dark brown, spotted with white; lower surfaces pale yellow or white.

Size. Total length 171 mm. (snt. to vnt. 65; tail 106).

Hab. Eastern Himalayas (Sikhim), Northern Bengal, Assam, Burma, Andaman Islands, Siam, Malay Peninsula.

81. Lygosoma olivaceum (Gray).

Lygosoma olivaceum, Blgr. Cat. Liz. iii. p. 251; S. Flower, P. Z. S. 1896, p. 874.

Recorded from Singapore, Penang, and the Peninsula.

Hab. Tenasserim, Nicobars, Malay Peninsula, Sumatra, Java Borneo, Philippines.

82. Lygosoma atrocostatum (Lesson).

Mabouya jerdoniana, Stol. J. A. S. B. 1870, p. 172.
Lygosoma jerdonianum, Blgr. Cat. Liz. iii. p. 300.
Lygosoma atrocostatum, Blgr. op. cit. p. 295.

The type of Jerdon's Skink was caught by Stoliczka on the little rocky island of Pulo Tikus Kechil, which lies off the north-east coast of Penang. I twice visited the island to try to obtain another specimen. On the first occasion, in Nov. 1896, not a skink was seen, but on the second, in April 1898, after our whole party had hunted unsuccessfully all through the middle of the day, at about 4·30 p.m., as we were returning to our boat, I saw a skink on a granite boulder on the beach, which I shot, and found it agreed completely with Stoliczka's description. The only other reptiles we obtained on the island were the common House Geckoes, *Gehyra mutilata* and *Hemidactylus frenatus*.

Colour (in life). Above, olive-green and bronze, beautifully mingled. Below, throat pale lilac-grey, body and limbs orange, tail greenish yellow.

Size. Total length 183 mm. (snt. to vnt. 70; tail 113); arm 25 mm.; leg 38 mm.; width of head 12 mm.

Hab. Malay Peninsula, Celebes, Philippines, Moluccas, Papuasia, Cape York, Caroline and Santa Cruz Islands.

83. LYGOSOMA SINGAPORENSE (Steindachn.).

Lygosoma singaporense, Blgr. Cat. Liz. iii. p. 297.

Hab. Malay Peninsula (Singapore).

84. LYGOSOMA MELANOSTICTUM Blgr.

Lygosoma melanostictum, Blgr. Ann. Mus. Genova (2) v. 1887, p. 479, pl. vii. fig. 2.

Localities. Of this skink, which does not seem to have been previously recorded from Siam, I have seen five specimens, four said to have been caught in Bangkok and one from Chantaboon.

Description. The latter specimen only differs from the description of this species in the British Museum Catalogue in the following points:—1st, frontal shorter than frontoparietals and interparietal together; 2nd, about 38 smooth scales round the middle of the body; 3rd, præanals distinctly enlarged; 4th, the adpressed limbs overlap.

Colour (in spirit). Above pale bronze-brown, with indistinct darker brown spots forming two irregular dorsal lines; an indistinct darker brown lateral line from behind the eye to the base of the tail, narrowly and indistinctly bordered above with yellow; lower surfaces and lips pale yellowish green.

Hab. Burma, Siam.

85. LYGOSOMA BOWRINGII (Günther).

Lygosoma bowringii, Blgr. Cat. Liz. iii. p. 308, pl. xxiii. fig. 3.

Siamese. "Mee-ang-ngu" (a term which more properly applies to *L. chalcides*).

Localities. It seems curious that Bowring's Skink does not appear to have been hitherto recorded from Siam, where I found it at Bangkok, Ayuthia, Kosichang, and Chantaboon. Peters recorded a specimen from Singapore, but I know of no other instance of its being found there or in other parts of the Straits Settlements.

Habits. Though very numerous in Siam this lizard is seldom seen by the ordinary observer, as, instead of delighting in brilliant sunshine like *Mabuia siamensis*, it spends the day hiding under stones, logs, &c., and only goes abroad after its prey at twilight.

Description. (Drawn up from fifteen Siamese specimens.) Body elongate, limbs short. The distance between the end of the snout and the fore-limb is to the distance between axilla and groin as 1 is to from $1\frac{10}{14}$ to $2\frac{3}{14}$. Snout short, obtuse. Lower eyelid scaly. Supranasals in contact behind the rostral; frontonasal much broader than long, forming a broad suture with the frontal; præfrontals small; frontal as long as frontoparietals and interparietal together, in contact with the first and second supraoculars; four

supraoculars; seven supraciliaries, first and last largest; frontoparietals distinct; interparietal distinct, smaller than frontoparietals; parietals forming a suture behind the interparietal; a pair of nuchals and a pair of temporals border the parietals; usually fifth upper labial largest and bordering the orbit; in one specimen in which both fourth and fifth border the orbit, the fourth is the largest upper labial. Ear-opening round, moderate-sized or small. 28 scales round the middle of the body (in one specimen 30), subequal; dorsals *smooth*. Marginal præanals slightly enlarged. The adpressed limbs fail to meet; the hind-limb is in length to the distance between axilla and groin as 1 is to from $1\frac{13}{14}$ to $2\frac{8}{14}$. Tail thick.

Colour (in life). (Drawn up from fifteen Siamese specimens.) Upper surface of head, body, tail, and limbs olive-brown, each dorsal scale with a darker spot forming six more or less continuous parallel narrow black lines, which are most distinct anteriorly and grow fainter posteriorly (in some individuals only the centre and outer pair of lines are distinguishable). Along each side there is a very dark brown or black line, which starts from the nostril, passes through the lower part of and below the eye, and is continued to the tail, where it gradually disappears. This dark lateral line is separated from the olive-brown back by a narrow pale yellow dorsolateral line, which commences from behind and above the eye, runs all along the neck and body and is continued, less distinctly, on to the tail. The limbs, sides of the head, body and tail vary from pale pink to bright vermilion, and are spotted with black and yellow; these spots are largest on the body and very small on the limbs. Lower surfaces: chin, throat, and lower labials vary from bright sulphur-yellow to pale coral-red; body varies from bright sulphur to greenish yellow or greyish buff; tail varies from yellow to pale coral-red.

The whole surface of the lizard is very metallic.

Size. The largest specimen, of nineteen I have measured, was 55 mm. from snout to vent, the arm 9 mm., and the leg 13 mm., but the tail only 40 mm., being a reproduced one, but if perfect (according to an average arrived at from nine individuals with perfect tails) it would have been 67 mm. long, giving a total length of 122 mm.

Hab. Burma, Hongkong, Siam, Malay Peninsula, Borneo (where I caught a specimen on Pulo Gaya), Celebes.

86. Lygosoma albopunctatum (Gray).

Lygosoma albopunctatum, Blgr. Cat. Liz. iii. p. 309

Hab. India, Assam, Burma, Malay Peninsula.

N.B.—Lygosoma isodactylum (Günther).

Lygosoma isodactylum, Blgr. Cat. Liz. iii. p. 339.

The type-specimen was obtained by M. Mouhot in Cambodia, so the species may eventually be found in Siam.

Hab. Cambodia.

87. Lygosoma chalcides (Linn.).

Lygosoma chalcides, Blgr. Cat. Liz. iii. p. 340.

Siamese. "Mee-ang-ngu."

This curious little skink is recorded from Penang Hill and Singapore by Cantor (p. 49), and from Bangkok by Boettger (Zool. Anz. 1893, no. 433, p. 430). I got one specimen on Penang Hill, elevation about ≥200 feet; one I found under a stone paving-flag in a garden in Bangkok, and one was caught on board the s.s. 'Hecate' on a voyage from Siam to Singapore; I also obtained seven specimens from Chantaboon and three said to be from Kosichang.

Colour (in life). Above pale buff, with numerous fine longitudinal, beautiful golden-brown lines. Below white, with numerous fine longitudinal zigzag brown lines. Top of head dark brown. Lips pale buff.

Size. The largest Siamese specimen measured in total length 155 mm. (snt. to vnt. 70; tail 85).

Hab. Southern China, Siam, Malay Peninsula, Java.

Note A.—Of two snakes (*Lycodon subcinctus*) which I got in the Larut Hills, Perak, at an elevation of 4400 feet, each had a lizard in its stomach, belonging to some species of *Lygosoma*; unfortunately they were in too advanced a state of digestion to be determined, but apparently they indicate a species to be subsequently added to the list of Malay Peninsula reptiles.

Colour (when found). Above rich olive-brown, with black oblong spots; sides olive, spotted with black and white; lower surfaces bright yellowish green.

Size. Total length 188 mm. (snt. to vnt. 93; tail 95).

Note B.—Tropidophorus cochinchinensis (Dum. & Bibr.).

Tropidophorus cochinchinensis, Blgr. Cat. Liz. iii. p. 363.

The type-specimen of *T. microlepis* was obtained by M. Mouhot in Cambodia, so the species may be eventually found in Siam.

Hab. Cambodia, Cochinchina.

Suborder OPHIDIA.

Native names :—
Siamese. "Ngu."
Malay. "Ular."
Jakun. "Kichon."
Jakun Camphor language. "Akar." } Lake & Kelsall, J. S. B. R. A. S. no. 26, 1894, pp. 48 & 55.

Family Typhlopidæ.

88. Typhlops lineatus Boie.

Pilidion lineatum, Cantor, p. 50.
Typhlina lineata, Günth. Rept. Brit. Ind. p. 171, pl. xvi. fig. B.
Typhlops lineatus, Blgr. Cat. Snakes, i. p. 15.

Two specimens of this Blind Snake have been obtained on

Penang Hills (Cantor & S. Flower, P. Z. S. 1896, p. 876), and the British Museum Catalogue records it from Malacca and Singapore.

Hab. Malay Peninsula, Java, and probably Sumatra.

89. Typhlops braminus (Daud.).

Typhlops braminus, Blgr. Cat. Snakes, i. p. 16; S. Flower, P. Z. S. 1896, p. 876.

Siamese. "Ngu-din"=earth snake.

Malay. "Ular tana"=earth snake.

The common Burrowing Snake has been recorded from Penang, Singapore, the Malay Peninsula, and Bangkok. It is believed by the Siamese to be very poisonous, and even when I have handled a live one to show how absolutely harmless and quiet it is, the natives would not be persuaded, believing (as they usually do in such cases) that I have a special charm or power over the snake and that the bite would be fatal to themselves.

I have specimens from Penang, Taiping (Perak), Bangkok, and Chantaboon; the longest being 170 mm. in length.

Hab. Arabia, Ceylon, India, Nepaul, Burma, Siam, Hongkong, Formosa, Malay Peninsula, Java, Borneo, Celebes, Philippines, Madagascar, Mauritius, Comoro Islands, Cape of Good Hope.

90. Typhlops bothriorhynchus Günth.

Typhlops bothriorhynchus, Blgr. Cat. Snakes, i. p. 23.

The type is supposed to be from Penang; at present we have no other evidence of the occurrence of this species in Malaya.

Hab. Northern India (North-west Provinces and Assam), Malay Peninsula.

91. Typhlops siamensis Günth.

Typhlops siamensis, Blgr. Cat. Snakes, i. p. 24.

The type-specimen was collected in Siam by M. Mouhot.

Hab. Siam.

92. Typhlops nigroalbus D. & B.

Typhlops nigroalbus, Blgr. Cat. Snakes, i. p. 24; S. Flower, P. Z. S. 1896, p. 876.

The Black-and-white Blind Snake is recorded from Penang, Perak, and Singapore. The finest individual I have observed measured 400 mm. in length and 47 mm. in girth; it was obtained in Penang, at 2500 feet elevation, by Mr. A. G. B. van Sommeren.

Hab. Malay Peninsula, Sumatra.

93. Typhlops schneideri Jan.

Typhlops schneideri, Blgr. Cat. Snakes, i. p. 27.

Recorded from Bangkok.

Hab. Siam.

94. Typhlops albiceps. (Plate XXXVII. fig. 1.)

Typhlops albiceps, Blgr. Ann. & Mag. N. H. ser. 7, vol. i., Feb. 1898, p. 124.

This species was described from a single specimen I obtained from a native, who said it was from Chantaboon; afterwards we found a second individual among some earth in our garden at Bangkok.

Colour (in life). Above and below uniform dark brown, highly iridescent. Head very pale purplish pink, turning to pale yellow on the snout. The tip and under surface of the tail are whitish buff. Total length 190 mm.

Hab. Siam.

95. Typhlops floweri[1]. (Plate XXXVII. fig. 2.)

Hab. Siam.

Family Boidæ.

96. Python reticulatus (Schneid.).

Python reticulatus, Cantor, p. 55; Blgr. Cat. Snakes, i. p. 85.

Siamese. "Ngu-laam."

Malay. "Ular sawa."

Localities. The Reticulated Python (commonly called "Boa Constrictor" by the English of Indo-China) is fairly numerous in suitable places in the Malay Peninsula. I have seen specimens from Penang, Province Wellesley, Perak, Selangor, Johore, and Singapore. In Siam I have seen only Bangkok specimens, but there can be no doubt that this snake is widely distributed through the country.

Habits. This python is very numerous in the city and suburbs of Bangkok; in almost every compound of which I know the occupants, either private houses or offices, one or more pythons have been found within the last few years. Strange to say, it is not in the quiet jungle-forest that the python seems to prefer to live, but in the busiest spots along the Menam, where steamers and junks are loading and unloading, steam-launches whistling, steam-saws buzzing, rice-mill chimneys filling the air with smoke, and hundreds of noisy coolies passing to and fro; here he selects some hole or crevice in building, timber-stack, or bank to spend the day in, and at night makes an easy living, devouring fowls, ducks, cats, dogs, and, it is said, pigs (which, together with countless

[1] *Typhlops floweri*, sp. n.—Snout rounded, very prominent; nostrils lateral. Rostral two-fifths the width of the head; nostril between two nasals, the anterior in contact with the first and second labials; a præocular, narrower than the ocular, in contact with the second and third labials; eyes distinguishable; upper head-scales scarcely enlarged; four upper labials. Diameter of body 85 times in the total length; tail three times as long as broad, rounded at the end, without spine; 18 scales round the body. Black; snout and anal region yellowish. Total length 210 millim.

A single specimen from Siam, without precise locality, was sent to the British Museum by Mr. Flower, after whom I have the pleasure of naming the new species.—G. A. Boulenger.

pariah-dogs, vultures, kites, and crows, are the regular scavengers of Bangkok).

In May 1897, a python, 2820 mm. (or 9 ft. 3 in.) in length, was found in the Wang Luang (King's Palace); I was told it had swallowed a pet cat and then had become too fat to get away through the hole by which it had entered. On opening the snake, I found a full-grown Siamese cat with a bell hung round its neck. In January 1898 another, 2438 mm. (or 8 ft.) in length, was caught alive in the Wang Na (2nd King's Palace). The activity, muscular strength, and more particularly the power with which it can strike out with its head, of a python even of this comparatively very small size is astonishing, and, together with the lovely sheen of colours which flashes over the bold patterns on its scales, is difficult to realize when you have seen these snakes only in captivity in Europe.

Size. A friend told me that when the wooden floor of his stables in Bangkok was being repaired during 1897, in a cavity underneath a large python was found and killed, which measured over 6·09 metres (or 20 feet) in total length. One killed at Matang, Perak, the skin of which measures about 6 metres, is in the possession of Lt.-Col. Froude Walker, C.M.G., who told me the python had been known to kill and eat pigs. Another killed at Simpang (Larut district), Perak, measuring 6·7 metres (or 22 feet), is now in the Taiping Museum. Dr. Wilson, Senior Medical Officer in Johore, told me of a python killed at Muar about 1889, which was 6·85 metres (or 22½ feet) long and 228 mm. (or 9 inches) in diameter. And Mr. L. Wray, jun., has measured one killed near Taiping, Perak, about 1896, which was in the flesh 8·2 metres (or 27 feet) long, and when skinned and stretched 10 metres (or 33 feet). Cantor writes : "In 1844 one was killed at the foot of Pinang, which a gentleman informed me measured more than 30 feet."

Hab. Burma, Siam, Malay Peninsula, Sumatra, Java, Banka, Sipora (Mentawei Is.), Great Natuna Is., Borneo, Celebes, Flores, Amboina, Ternate, N. Ceram, Timor Laut, and Philippines.

97. Python molurus (L.).

Python molurus, Blgr. Cat. Snakes, i. p. 87.

The common Python of India is included in the list of Malay Peninsula reptiles, so far as I am aware, solely on the authority of Stoliczka (J. A. S. B. 1870, p. 205), who mentions having "seen several specimens obtained in the Wellesley province." I have not heard of its occurrence in Siam.

In recording localities of animals, such as this python, which form part of the usual stock-in-trade of itinerant native jugglers, it behoves collectors to be very careful and to make all possible enquiries regarding them : for instance, when in Bangkok I once was brought a live *Python molurus*, but found by questioning that it had been brought there by an Indian conjurer from Bombay.

Hab. India, Ceylon, South China, Malay Peninsula, Java, Celebes.

98. Python curtus Schleg.

Python curtus, Blgr. Cat. Snakes, i. p. 89, and P. Z. S. 1889, pl. xlv.

Recorded from Malacca and Singapore.

Hab. Malay Peninsula, Sumatra, Borneo.

Family Ilysiidæ.

99. Cylindrophis rufus (Laur.). (Plate XXXVII. fig. 3.)

Cylindrophis rufus, Cantor, p. 53; Blgr. Cat. Snakes, i. p. 135.

Siamese. "Ngu-kan-rob," *also* "ngu-kan-kop."

Malay. "Ular dua kapala" = two-headed snake.

This curious burrowing snake is not uncommon. I have seen specimens from Taiping in Perak, Kuala Lumpor in Selangor, Johore Bahru, Singapore, and ten individuals from Bangkok. It is also recorded from Penang. The Bangkok specimens had each 21 rows of scales.

Habits. At ordinary times this snake is fairly cylindrical in section, and uses its tail in progression, putting the sharp tip against the ground and pushing its body forward from it; but it has the power of depressing its body, when its appearance is very singular: the neck and anterior part of the body are but slightly compressed, but posteriorly it is very much so. Consequently, when *seen from above* the outline of the snake is much that of a Sea-snake seen from the side. When touched or worried it will not attempt to strike or bite, but keeps its head flat on the ground, usually hidden under the folds of the body; its *tail*, however, it raises off the ground and holds aloft curved over backwards in the most extraordinary manner, so that any casual observer would imagine the tail was the head and think the snake to be threatening to strike. Sometimes the tail is not curved over, but held in the manner most snakes hold their heads when advancing. In captivity *Cylindrophis rufus* avoids the light and creeps into any dark corner.

Colour (in life). The following description of a Bangkok specimen with *no* "orange collar-mark" may be compared with that of a Singapore specimen (P. Z. S. 1896, p. 877):—Above intense iridescent black, with three brown cross-bands interrupted in the vertebral line. Below black, with about forty-nine transverse pale yellow bands (turning china-white after death). Only those bands about the middle of the body are regularly formed; most of those on the anterior and posterior parts do not meet along the middle line. A bright vermilion mark on the tail. Inside of mouth bright red.

Size. The largest Bangkok specimen was 732 mm. in total length, but one from Kuala Lumpor measured 825 mm.

Hab. Burma, Siam, Cambodia, Malay Peninsula, Sumatra, Java, Borneo, Celebes.

100. Cylindrophis lineatus Blanf.

Cylindrophis lineatus, Blgr. Cat. Snakes, i. p. 137.

This snake is only known from the type specimen in the Raffles Museum, Singapore, described by Mr. Blanford (P. Z. S. 1881, p. 217, pl. xx.).

Hab. Malay Peninsula.

Family Xenopeltidæ.

101. Xenopeltis unicolor Reinw.

Xenopeltis unicolor, Blgr. Cat. Snakes, i. p. 168 (skull figured); S. Flower, P. Z. S. 1896, p. 878.

"Ngu saam-paa-teek" of the Siamese.

Localities. This remarkable snake is known from Penang Hill (Cantor, p. 54); Province Wellesley (Cantor, p. 54, and Mr. van Sommeren's collection); Kuala Selangor (Mr. A. L. Butler's collection); Pahang (Dr. Hanitsch, Rep. Raffles Libr. & Museum, 1897, p. 9); Singapore (Brit. Mus. Cat.; Peters, Monatsb. Ak. der Wiss. zu Berlin, 1859, p. 269; Rep. Raffles Libr. & Museum 1897; and my own collection).

The British Museum Catalogue mentions two specimens from Siam; and I have observed ten Bangkok individuals and one from Chantaboon.

Habits. A young snake of this species that I kept alive was fairly quiet from the first, and after one day's captivity never attempted to bite when handled. An adult specimen when excited would twist itself into an irregular pile of tight coils, except the tail, which was held on one side, raised from the ground, and the tip kept vibrating at a great speed.

Description. In six Siamese specimens the number of ventral shields was 180, 184, 185, 186, 188, and 196, and of subcaudals was respectively 27 (2nd), 29 (2nd), 29 (1st), 28 (1st), 28 (2nd), and 27 (1st), which were double, except those whose number, counting from the anterior end of the tail, is shown in brackets, which were single. The anal is always divided, and the scales in 15 rows.

Colour (in life). The iridescent colours of this snake are most beautiful and wonderful. As it crawls along, the curves of its body flash brilliant lights of emerald-green, copper, blood-red, purple and electric-blue, while the actual colour is a very dark rich coffee-brown. The upper labials and whole lower surfaces are uniform pale yellow. Individuals up to 250 mm. in length have a distinct broad yellow collar, which disappears entirely in adults.

Size. The largest Bangkok specimen I have measured was 775 mm. in total length, but the species grows larger than that.

Hab. Southern India, Burma, Siam, Malay Peninsula, Sumatra, Nias, Java, Borneo, Celebes.

Family Colubridæ.

Series Aglypha.

Subfamily Acrochordinæ.

102. Acrochordus javanicus Hornstedt.

Acrochordus javanicus, Cantor, p. 58; Blgr. Cat. Snakes, i. p. 173.

Siamese. "Ngu charng-naam" = "water-elephant snake."

Malay. "Ular karong" = sack snake
,, "Ular sapi" = ox snake
,, "Ular lemba" = cattle snake
} (*apud* Cantor).

Cantor mentions this species from Penang Hill and Singapore. In June 1898, Mr. A. L. Butler showed me a live specimen that had been caught in a fish-trap in fresh water near Kuala Lumpor, Selangor; it was 1778 mm. in length and had about 152 rows of scales (counted by Mr. Butler). The Raffles Museum contains a specimen from Pahang (R. Hanitsch, Rep. Raffles Libr. & Mus. 1897, p. 9). It does not seem to have been previously recorded from Siam, but it is found in the neighbourhood of Bangkok, and is valued for its skin, which is used for making the drum-heads of native drums. The largest specimen I obtained was from Sapatoom, and measured 1830 mm. (6 feet) in total length.

This snake, when alive and fresh caught, is of immense girth and very powerful, twisting round one's arms with a grasp like that of a python. It seems to be purely aquatic (though Cantor records an exception), frequenting canals and ditches. On land as a rule it is very sluggish, but when aroused will strike suddenly with great force, and can inflict an unpleasant bite, as its teeth are apt to break off in the wound.

I tried keeping two in a tank with some freshwater tortoises, *Cyclemys platynota*. The snakes did them no harm, but the tortoises (although they had lived peacefully with other aquatic snakes, *Homalopsis buccata* and species of *Tropidonotus*), for some unknown reason, attacked the Acrochordi and repeatedly bit them about the head, so that they had to be separated.

Hab. Siam, Malay Peninsula, Java, New Guinea.

103. Chersydrus granulatus (Schneid.).

Acrochordus granulatus, Cantor, p. 59.

Chersydrus granulatus, Blgr. Cat. Snakes, i. p. 174.

Malay. "Ular limpa" = liver-coloured snake (*apud* Cantor).

Cantor also gives "Ular laut" as a Malay name for this species, but every snake which is found in the sea is called "ular laut," *i. e.* sea-snake.

Recorded from Penang (Cantor) and from Singapore (Brit. Mus. Cat.). Mr. Ridley informs me this autumn (1898) a "*Chersydrus granulatus* was picked up in the road by the Botanical Gardens,

Singapore), dirty brown and white in rings, a very sluggish beast."

In the Kuala Lumpor Museum there is a small specimen, caught (in the act of swallowing a fish) at sea in the Straits of Malacca between Klang and Singapore.

In the Siamese Museum there is a large stuffed specimen said to be from Bangkok.

Hab. Ceylon, Madras, Burma, Siam, Cochinchina, Malay Peninsula, Sumatra, Java, Borneo, Celebes, Philippines, New Guinea.

104. XENODERMUS JAVANICUS Reinh.

Xenodermus javanicus, Blgr. Cat. Snakes, i. p. 175.

Recorded from Penang (F. Müller, Verh. nat. Ges. Basel, 1887, p. 268).

Hab. Malay Peninsula, Sumatra, Java.

Subfamily COLUBRINÆ.

105. POLYODONTOPHIS GEMINATUS (Boie).

Herpetodryas prionotus, Cantor, P. Z. S. 1839, p. 52.
Polyodontophis geminatus, Blgr. Cat. Snakes, i. p. 185.

Recorded from Malacca and Singapore (P. Z. S. 1896, p. 879).

Hab. Siam (Blgr. Cat. Snakes, i. p. 185), Malay Peninsula, Sumatra, Java, Borneo, Lombok.

106. POLYODONTOPHIS SAGITTARIUS (Cant.).

Calamaria sagittaria, Cantor, p. 64.
Polyodontophis sagittarius, Blgr. Cat. Snakes, i. p. 187.

Cantor mentions one specimen from the Malay Peninsula.

Hab. West Himalayas, Bengal, Assam, Malay Peninsula.

107. XENOCHROPHIS CERASOGASTER (Cant.).

Tropidonotus cerasogaster, Cantor, p. 92.
Xenochrophis cerasogaster, Blgr. Cat. Snakes, i. p. 191.

Cantor mentions one specimen from the Province Wellesley.

Hab. Bengal, Assam, Khasi Hills, Malay Peninsula.

108. PRYMNOMIODON CHALCEUS Cope.

Hab. Siam (Blgr. Cat. Snakes, i. p. 192).

109. TROPIDONOTUS TRIANGULIGERUS Boie.

Tropidonotus trianguligerus, Blgr. Cat. Snakes, i. p. 224.

Recorded from Penang and Singapore (*vide* P. Z. S. 1896, p. 879).

I have seen a specimen from Penang Hill, 2400 ft., and obtained another near the foot of Gunong Pulai, Johore, 790 mm. in length.

Colour (in life). Above dark olive, with small black spots forming indistinct cross-bands or reticulations; on the anterior half of the body a lateral series of large triangular black spots, with the points extending down to the ventrals, separated by interspaces of bright coral-red; belly yellow, some of the ventrals partially edged with black: subcaudals yellow, each scale edged with black; upper labials yellow with black sutures.

Hab. Southern Burma, Malay Peninsula, Sumatra, Nias, Sipora, (Mentawei Islands), Java, Borneo, Celebes, Ternate.

110. Tropidonotus piscator (Schneid.)

Tropidonotus piscator, Blgr. Cat. Snakes, i. p. 230.

Siamese. "Ngu lai-sau"; "lai" means *variegated.*

Localities. Var. A. The specimen from Singapore mentioned in the Brit. Mus. Cat. is the only instance I know, of this variety, in this region.

Var. B. To this variety of the Indian Fishing Snake belong Cantor's Penang specimen, and those obtained by Mouhot in Siam and Cambodia; and I have seen six specimens caught in Penang at various elevations from sea-level to 2200 feet. In May and June 1898, these snakes were *very* numerous near Alor Star, Kedah, and it is one of the commonest in Bangkok.

Habits. The Fishing Snake seems generally to be found in or near fresh water. When newly caught and frightened it is apt to be fierce, but soon becomes tame in captivity. Its food includes frogs; I have known it to eat *Microhyla ornata.*

Colour (in life).—Var. B. Above olive-brown, black-spotted. Below whitish, ventrals and subcaudals more or less edged with black. A specimen, 360 mm. in length, caught in the Wang Na, Bangkok, 21st July 1898, was unusually coloured:—Above dark olive-brown, indistinctly spotted with black. Along each side a series of distinct black spots, the interspaces being pale olive-brown, broadly marked with *bright scarlet*, which gave the snake a striking appearance. Below pale greenish yellow, each ventral and subcaudal neatly outlined in black. Head above olive-brown, with two small well-defined black-edged yellow spots close together on the parietals (these two spots are frequently noticeable in Bangkok specimens); sides of head yellowish, two parallel black lines running obliquely backwards and downwards from the eye. Under surface of head dull whitish. Iris yellowish green, with narrow golden ring round pupil.

Size. A female from Penang Hill was 952 mm. in length.

Hab. India, Burma, South China, Siam, Cambodia, Malay Peninsula, Java, Borneo.

111. Tropidonotus tigrinus Boie.

Hab. Manchuria, China, Japan, Cochinchina, Siam (Blgr. Cat. Snakes, i. p. 249).

Description.

No.	Locality.	Scales.	Ventrals.	Sub-caudals.	Post-oculars.	Upper Labials.	Temporals.
1.	Penang Plain...	...	125	77			
2.	,, Hill ...	19	127	78	3	9 (4th and 5th enter eye).	
3.	,, ,, ...	19	139	...	4	9 (4th enters eye).	2+3
4.	,, ,, ...	17	136	67			
5.	Kedah	19	126	82			
6.	,, ...	19	127				
7.	,, ...	19	134				
8.	,, ...	19	138	73			
9.	,, ...	19	138	74			
10.	,, ...	19	138 (L.D).[1]	73			
11.	,, ...	19	139				
12.	,, ...	19	139 (L.D).	75			
13.	Bangkok.....	19	124	...	4	9 { 4th does not quite enter eye. 5th is separated from 4th by lowest postocular.	
14.	,, ...	19	124	88	3		
15.	,, ...	19	125 (L.D.)	78	3	.....	2+3
16.	,, ...	19	129	86	3	9 (4th enters eye).	
17.	,, ...	19	130	89	4	9 (4th and 5th enter eye).	
18.	,, ...	19	137	66	3	9 (4th and 5th enter eye).	2+2
19.	,, ...	19	137 (L.D.)	75	3	.....	2+2 { with a 3rd median shield placed in second row, but not in contact with anterior row.
20.	,, ...	19	138	76	3	.....	2+3
21.	,, ...	19	138	85	3	.....	2+2

[1] L.D. signifies that the last ventral shield is divided.

112. Tropidonotus stolatus (L.).

Tropidonotus stolatus, Cantor, p. 90 ; Blgr. Cat. Snakes, i. p. 253.

Recorded from Penang, Singapore and the Malay Peninsula.

Hab. Ceylon, India, Burma, China, Formosa, Hainan, Hongkong, Malay Peninsula, Philippines.

113. Tropidonotus vittatus (L.).

Tropidonotus vittatus, Stol. J. A. S. B. 1873, pt. 2, p. 114; Blgr. Cat. Snakes, i. p. 255.

Hab. Malay Peninsula, Java, Celebes.

114. Tropidonotus subminiatus, Schleg.

Tropidonotus subminiatus, Blgr. Cat. Snakes, i. p. 256.

Siamese. "Ngu lai-sarp."

Localities. I have not been able to find out on what authority this snake is recorded from the Malay Peninsula. M. Mouhot obtained specimens from Siam, Cambodia, and the Laos Mountains. I have seen seven Bangkok specimens, one being from the Rong Law on the west bank of the Menan, but most were caught in the compound of the Siamese Museum.

Habits. Specimens we kept in captivity were observed to eat frogs and small toads—*Rana limnocharis*, *Microhyla ornata*, and *Bufo melanostictus*.

Description.

No.	Locality.	Ventrals.	Sub-caudals.	Tem-porals.	Upper Labials.
1.	Bangkok...	138	72	2+3	8 (3rd, 4th, 5th enter eye).
2.	„ ...	144	71	2+3	8 („ „).
3.	„ ...	145	73	2+3	8 on one side, 9 on the other.
4.	„ ...	147	...	2+3	
5.	„ ...	150	...	2+2	8 (3rd, 4th, 5th enter eye).
6.	„ ...	151	70	2+2	9 („ „).

Specimens 2 and 5 had five lower labials on each side in contact with the anterior chin-shields; specimens 1 and 6 had five lower labials on one side and six on the other in contact with the anterior chin-shields; in specimens 3 and 4 the anterior chin-shields were a little longer than the posterior.

Colour (in life). Above dark olive-brown (browner on the body, greener on the head and neck), more or less obscurely mottled with black. The skin between the scales is yellow or greenish golden and shows as bright reticulations, especially when the snake is distended with food. Young specimens have a jet-black cross-band on the nape, bordered posteriorly by a narrow bright

yellow collar; the neck behind this collar is brilliant vermilion and in adult specimens red or crimson. Below immaculate white or yellow, shading to pink where it joins the dark upper parts. Sides of the head and neck bright yellow; below each eye a black triangular patch extending backwards and downwards (in one individual this mark was only present on the right side).

Size. The largest Bangkok specimen measured 690 mm. in total length.

Hab. Eastern Himalayas, Assam, Burma, South China, Siam, Cambodia, Malay Peninsula, Java, Celebes, Ternate.

115. Tropidonotus chrysargus Schleg.

Tropidonotus junceus, Cantor, p. 93.
Tropidonotus chrysargus, Blgr. Cat. Snakes, i. p. 258.

This beautiful snake appears to be a mountain form in the Malay Peninsula. Cantor got one individual on Penang Hill, and Mr. L. Wray, Dr. Hanitsch, and myself have in different years obtained it in the Larut Hills, Perak, from 3000 to 3400 feet above the sea.

Habits. Cantor says: "Like most of the Asiatic species of this genus, the present is of fierce habits. It twice unprovokedly bit a woodcutter who happened to pass it. The bite, of course, was productive of no consequences except a slight momentary pain."

Colour (in life). A specimen 310 mm. in length was above very dark rich olive-brown, with a bright yellow collar-mark forming an acute backward-pointing angle on the neck; the skin between the scales is brick-red, and shows as fine red reticulations on the anterior part of the body. Labials bright yellow, upper outlined in black. Below, head and neck bright yellow, remainder greyish buff, with small black spots, and a very distinct black spot on the side of each ventral and pair of subcaudal scales.

A specimen 760 mm. in length differed in having no collar-mark and the red reticulations showing only on the neck, also other markings which were hardly distinguishable on the smaller specimen here show, viz. numerous narrow black transverse lines, each interrupted by a dorso-lateral series of dull orange-brown spots. The lower parts of the sides are iridescent crimson, speckled with black, and the belly is yellowish, only shading to greyish buff posteriorly.

The whole lower surface is highly iridescent, with purplish shades. The eye is large and noticeable. Iris, very narrow golden ring round pupil, remainder rich red-brown, with a redder patch above the pupil.

Hab. Eastern Himalayas, Assam, Burma, South China, Malay Peninsula, Sumatra, Nias, Java, Borneo, Palawan, Balabac, Sipora (Mentawei Islands).

116. Tropidonotus maculatus Edeling.

Hab. Malay Peninsula (one specimen, Malacca; Blgr. Cat. Snakes, i. p. 260), Sumatra, Labuan, Borneo.

117. Macropisthodon flaviceps (D. & B.).

Tropidonotus leucomelas, Günth. Rept. Brit. Ind. p. 271, pl. xxii. fig. I.

Macropisthodon flaviceps, Blgr. Cat. Snakes, i. p. 266.

The type of *T. leucomelas* is supposed to be from Penang. Mr. Wray has obtained this species in Perak.

Hab. Malay Peninsula, Sumatra, Borneo.

118. Macropisthodon rhodomelas (Boie).

Macropisthodon rhodomelas, Blgr. Cat. Snakes, i. p. 266.

This snake is frequently found in Singapore (*cf.* P. Z. S. 1896, p. 880), and has been recently recorded from Pahang (R. Hanitsch, Rep. Raffles Libr. & Mus. 1897, p. 9).

Hab. Malay Peninsula, Sumatra, Java, Borneo, and Celebes (a specimen in the Raffles Museum is said to be from Macassar).

119. Helicops schistosus (Daud.).

Tropidonotus schistosus, Cantor, p. 91.

Atretium schistosum, Günth. Rept. Brit. Ind. p. 273.

Helicops schistosus, Blgr. Cat. Snakes, i. p. 274.

Hab. Malay Peninsula (Cantor), Ceylon, Southern India, Bengal, Yunnan, Burma.

120. Lycodon aulicus (L.).

Lycodon aulicus, Blgr. Cat. Snakes, i. p. 352.

Siamese. "Ngu how-peek-kaao," also "Ngu ngaukh."

This little snake, which not unfrequently is found in inhabited houses, is recorded from Penang, Singapore, and the Malay Peninsula. The British Museum Catalogue mentions specimens from Siam, presented by Mr. Newman, and from Cambodia, collected by M. Moubot. Personally I have obtained this species from Penang (sea-level and at 2200 ft. elevation), from Alor Star, Kedah, and from Bangkok and Chantaboon; all these were of Var. D.

Description. In eleven Siamese and Malay individuals the number of ventral shields varied from 192 to 207, and the subcaudals from 61 to 75. In one specimen from Penang the 4th and 5th subcaudals were single.

Colour (in life).—Var. D. Above brown, with fine, narrow, yellow reticulations; a triangular yellow blotch on each side of the occiput, confluent in the centre, forming a collar; labials yellow, all of them or only the anterior ones spotted with brown. Below uniform white or pale yellow.

Size. A Bangkok specimen measured 540 mm. in total length.

Hab. Ceylon, India, Himalayas, Burma, Siam, Cambodia, Cochinchina, Malay Peninsula, Sumatra, Java, Sumba, Savu, Ombaai, Flores, Timor, Celebes, Philippines, Mascarene Islands (introduced).

N.B.—I know no instance of *Lycodon jara* occurring in Siam;

Dr. Haase's Bangkok specimens of "*L. jara*" that I have examined are undoubtedly *L. aulicus*.

121. Lycodon laoensis Günth.

Lycodon laoensis Günth. Rept. Brit. Ind. p. 317 Blgr. Cat. Snakes, i. p. 354.

Discovered by M. Mouhot in the Laos Mountains.

Hab. Siam.

122. Lycodon effrenis Cant.

Lycodon effrœnis, Cantor, p. 70, pl. xl. fig. 2.
Lycodon effrenis, Blgr. Cat. Snakes, i. p. 356.

Cantor obtained one specimen from Penang Hill.

Hab. Malay Peninsula. Sumatra, Borneo.

123. Lycodon subcinctus Boie.

Lycodon platurinus, Cantor, p. 96.
Lycodon subcinctus, Blgr. Cat. Snakes, i. p. 359.

Recorded from Penang Hill (Cantor) and Singapore (Brit. Mus. Cat., Hanitsch, Flower). In December 1896 I obtained another specimen in Singapore, 710 mm. in total length. In September 1897 Dr. Wilson gave me a specimen caught in Johore Bahru. And in April 1898 I got two males in the Larut Hills, Perak, at an elevation of 4400 feet (each of which had a recently swallowed lizard, *Lygosoma* sp. incert., in its stomach), one 753 mm. and the other 756 mm. in length.

Colour (in life). Above purplish black, with double white cross-bands. Skin between scales whitish. Below, buff and purplish black; anteriorly the two colours form alternate broad but ill-defined cross-bands, posteriorly they are irregularly mottled.

The similarity in colouring between this harmless snake and one variety of the poisonous *Bungarus candidus* is worthy of notice.

Hab. Malay Peninsula, Sumatra, Nias, Java, Lombok, Borneo, Philippines.

124. Dryocalamus subannulatus (D. & B.).

Dryocalamus subannulatus, Blgr. Cat. Snakes, i. p. 371.

Recorded from Singapore and Province Wellesley (P. Z. S. 1896, p. 881).

Hab. Malay Peninsula, Sumatra.

125. Dryocalamus davisonii (Blanf.).

Hydrophobius davisonii, Blgr. Fauna Brit. Ind., Rept. p. 299 (1890).
Dryocalamus davisonii, Blgr. Cat. Snakes, i. p. 372 (1893).

Siamese. "Ngu plang-nuan."

I have seen three or four specimens from Bangkok; one measured 965 mm. in total length.

Hab. Tenasserim, Siam, Cochinchina, Annam.

126. Zaocys carinatus (Günther).

Zaocys carinatus, Blgr. Cat. Snakes, i. p. 377, pl. xxvii. fig. 1; R. Hanitsch, Rep. Raffles Libr. & Mus. 1897, p. 9.

Recorded from Perak and Singapore.

Hab. Malay Peninsula, Sumatra, Borneo.

N.B.—Specimens of the harmless *Zaocys* are sometimes mistaken for the poisonous Hamadryad, *Naia bungarus*. A friend once told me of his having killed two Hamadryads in the Larut Hills, and afterwards showed me the bodies; they were both *Zaocys*, but I cannot say now if they belonged to this or the next species.

127. Zaocys fuscus (Günther).

Zaocys fuscus, Blgr. Cat. Snakes, i. p. 378, pl. xxvii. fig. 2.

Of this fine snake, which has not previously been recorded from the Malay Peninsula, I obtained one specimen, a male, on Penang Hill, at an elevation of 1900 feet, in March 1898. Ventrals 195, subcaudals 160. Total length 2965 mm. (or 9 feet $8\frac{3}{4}$ inches). In its stomach was a recently swallowed frog, *Megalophrys nasuta*.

Colour (in life). Above olive-brown, with a bright brick-red vertebral line (which faded after death); a black lateral line on the posterior half of the body and on the tail; lower surfaces uniform primrose-yellow. Head above dark olive-brown; 5th, 6th, and 7th upper labials and whole lower jaw primrose-yellow. Scales on upper surface of tail edged with black.

Hab. Malay Peninsula, Sumatra, Natuna, Borneo.

128. Zamenis korros (Schleg.).

Zamenis korros, Blgr. Cat. Snakes, i. p. 384.

This Rat-Snake has been recorded from Penang, Perak, and Singapore (P. Z. S. 1896, p. 882), and M. Mouhot obtained it in Siam.

Recently I have seen seven individuals from the region treated of in this paper: two caught at Bakar Bata (near Alor Star), Kedah; one from Province Wellesley; one from the Kuala Kangsa Pass (between Larut and Kinta) in Perak; one from Kuala Lumpor, Selangor (1568 mm. in total length); one I shot in the jungle near Kabin, Siam; and one was caught at Pachim, Siam, by Mrs. Stanley Flower, which measured 1780 mm. (5 feet 10 inches) in total length, and is the biggest *Z. korros* I have ever seen.

Young specimens may have very distinct narrow yellow cross-bars on the anterior part of the body, which become gradually fainter posteriorly.

Hab. Sikhim Himalayas, Assam, Burma, Western Yunnan, Southern China, Siam, Malay Peninsula, Sumatra, Java.

129. Zamenis mucosus (L.).

Zamenis mucosus, Blgr. Cat. Snakes, i. p. 385.

Siamese. "Ngu how-talaan."

Localities. The Dhaman or Rat-Snake seems to be numerous in Bangkok, and I have come across several specimens, especially in the Wang Na and at Sapatoom. There is a specimen in the British Museum, obtained in Siam by M. Mouhot, and one said to be from Singapore, presented by Dr. Dennys.

Habits. I have more than once seen the Dhaman moving in the open in bright daylight. When newly caught it is fierce and bites hard, and, as the teeth sometimes break off in one's flesh, it may inflict a nasty wound unless the broken-off teeth are at once extracted. When angry it utters repeatedly a curious threatening sound, audible some yards off, best described as "roaring," something like the the deep growling of a big dog.

It also rears up its head like a Cobra and dilates its neck, but not transversely like *Naia* or dorsally, but *ventrally*; the anterior ventral shields are thrust out and become acutely keeled, and the skin on the sides of the neck is widely stretched, showing yellow between the brown scales.

Colour (in life). Above olive-brown or light yellowish brown, shading towards the sides (on the anterior half especially) to very pretty shades of purple and mauve-grey. On specimens up to 1000 mm. in length there are on the anterior half of the body indistinct, narrow, light cross-bands, showing plainest on the sides, and more or less obliterated in the vertebral region. In all specimens, on the posterior part of the body and on the tail, are numerous very distinct but irregular black cross-bands, narrower than the pale brown interspaces. Below pale yellow, the cervical and posterior ventral shields and the subcaudal shields are partially edged with black. Labials yellow, strongly edged with black along the sutures.

Size. An individual from Sapatoom measured 2284 mm. (7 feet 6 inches) in total length, and others were nearly as large.

Hab. Transcaspia, Afghanistan, Cashmere, Nepaul, Sikhim, India, Ceylon, Burma, Formosa, South China, Siam, Malay Peninsula, Java.

130. ZAMENIS SPINALIS (Peters).

Zamenis spinalis, Blgr. Cat. Snakes, i. p. 394.

Hab. Mongolia, Corea, China, Hainan, Siam.

131. ZAMENIS FASCIOLATUS (Shaw).

Zamenis fasciolatus, Blgr. Cat. Snakes, i. p. 404.

Recorded from Province Wellesley (Cantor, p. 72).

Hab. Northern India, Madras, Malay Peninsula.

132. XENELAPHIS HEXAGONOTUS (Cantor).

Xenelaphis hexagonotus, Blgr. Cat. Snakes, ii. p. 8.

Recorded from Penang, Pahang, and Singapore (P. Z. S. 1896, p. 882).

Hab. Burma, Malay Peninsula, Sumatra, Java, Borneo.

133. Coluber porphyraceus Cantor.

Coluber porphyraceus, Blgr. Cat. Snakes, ii. p. 34.

The Brit. Mus. Catalogue mentions a specimen from Singapore, from Dr. Cantor.

Hab. Eastern Himalayas, Assam, Burma, Yunnan, Malay Peninsula, Sumatra.

N.B.—Coluber hodgsonii (Günth.) is recorded from Singapore ! [R. Hanitsch, Rep. Raffles Libr. & Mus. 1897, p. 10.]

134. Coluber tæniurus (Cope).

Coluber tæniurus, Blgr. Cat. Snakes, ii. p. 47 ; Ridley, J. S. B. R. A. S. 1898, p. 99.

This snake has been recently added to the known fauna of the Malay Peninsula by Mr. H. N. Ridley, who obtained specimens in the Batu Caves, near Kuala Lumpor. In June 1898 Mr. A. L. Butler and myself visited these caves and obtained more specimens of this co-called "White Snake." They were far in the hill-side, where no daylight can ever penetrate ; one specimen had a recently swallowed bat in its stomach ; the largest was 2260 mm. (7 feet 5 inches) in total length. In September 1897 I received a specimen, through the kindness of Dr. Wilson, caught in Johore Bahru, which measured 1657 mm. in length ; and, in Sept. or Oct. 1898, I hear Mr. Butler "caught a 'Cave Snake' in a drawer in a rest-house in Selangor on the Pahang track, miles away from any rocks : it is olivaceous in colour."

Hab. Manchuria, China, Sikhim, Cochinchina, Siam, Malay Peninsula, Sumatra, Borneo.

135. Coluber oxycephalus Boie.

Herpetodryas oxycephalus, Cantor, p. 80.

Coluber oxycephalus, Blgr. Cat. Snakes, ii. p. 56.

This handsome green Snake is found in the hills of Penang (two specimens recorded by Cantor, and I have seen two in the collection of Mr. van Sommeren), in Larut, Perak (specimen in the Taiping Museum), in Pahang (R. Hanitsch, Rep. Raffles, Libr. & Mus. 1897, p. 10), in Malacca (Peters, Monatsb. Berl. Ac. 1895, p. 269), in Johore (Dr. Wilson gave me a specimen from Johore Bahru), and in Singapore (two specimens in the British Museum from Gen. Hardwicke and one obtained by myself in October 1897).

Hab. Eastern Himalayas, Tenasserim, Malay Peninsula, Java, Borneo, Philippines, Great Natuna Island.

136. Coluber melanurus Schleg.

Coluber melanurus, Blgr. Cat. Snakes, ii. p. 60; S. Flower, P. Z. S. 1896, p. 883.

This snake is found in the hills of Penang (two specimens in Mr. van Sommeren's collection), in Province Wellesley, in Selangor

(several local specimens in the Kuala Lumpor Museum), and in Singapore (Dr. Dennys, Mr. Ridley, Dr. Hanitsch, and myself).

Hab. South China, Burma, Malay Peninsula, Sumatra, Nias, Java, Borneo.

137. Coluber radiatus Schleg.

Coluber radiatus Blgr. Cat. Snakes, ii. p. 61.

Localities. Found in Penang (Cantor and others), Province Wellesley (two specimens in Mr. van Sommeren's collection), Perak (several specimens from Taiping and Kuala Kangsa, in the Taiping Museum), and Singapore (Cantor and Hanitsch).

It does not seem to have been previously recorded from Siam, where I obtained four specimens from Bangkok and one from Ayuthia.

Habits. Like most species of *Coluber*, this is a fierce snake and will bite one vigorously; the neck is apparently dilatable.

Colour (in life). Above yellowish brown, with three black lines along each side of the anterior part of the body: these may be more or less broken up into a series of elongated spots; usually the upper line is broad and conspicuous, and the lowest narrow and indistinct; a well-marked black line across the occiput; three black lines radiating from the eye. Lower parts uniform yellow, or lemon-yellow anteriorly and yellow with pink shades posteriorly (after death, in specimens placed in spirits, dark purplish speckles may appear). In young specimens the anterior half of the body may be indistinctly reticulated with white. Iris bright golden ("bright gamboge, with a concentric black ring"—*Cantor*).

Size. The largest Bangkok specimen was 1696 mm. in total length.

Hab. Eastern Himalayas, Bengal, Assam, Burma, South China, Cochinchina, Siam, Malay Peninsula, Sumatra, Java.

138. Gonyophis margaritatus (Peters).

Gonyosoma margaritatum, Peters, Mon. Berl. Ac. 1871, p. 578
Gonyophis margaritatus, Blgr. Cat. Snakes, ii. p. 71.

Hab. Malay Peninsula (Singapore, Blgr. A. M. N. H. (6) viii. 1891, p. 290), Borneo.

139. Dendrophis pictus (Gmel.).

Leptophis pictus, Cantor, p. 82.
Dendrophis pictus, Blgr. Cat. Snakes, ii. p. 78.

Localities. The Painted Tree-Snake is by no means rare; it has been found in Penang (Cantor), on Penang Hill at 2000 feet (S. S. F.), at Alor Star and at Kulim, Kedah (S. S. F.), at Taiping, Perak (S. S. F.), at Kuala Lumpor, Selangor (Hanitsch, Rep. Raffles Libr. & Mus. 1897, p. 10), at Tanglin, Singapore (S. S. F.), in Siam (Siamese Museum), in the Laos Mountains (Mouhot), and in Cambodia (Mouhot).

Habits. In the stomach of one I found a frog, *Rana macrodactyla*, which indicates that this snake is not entirely arboreal, as

R. macrodactyla is a marsh-haunting species. *Dendrophis pictus* is very gentle when handled.

Colour (in life). Above olive bronze-brown; a black line on either side of the head from the nostril passing through the eye and continued along the anterior quarter of the body, where it is broken at frequent and regular intervals by diagonal bands of rich blue-green. Along each side of the body is a pale whitish bronze line, bordered above and below by rich dark brown. These lateral lines disappear on the tail, which is plain olive-brown above and on the sides. The upper labials and sides of the neck below the black line are pale lemon-yellow. The ower surfaces of head, body, and tail are immaculate white; the lateral ventral keels are finely outlined in dark brown; and the sides of the ventral shields above the keels are white, with very pretty pink and bronze shades. Iris bronze. Tongue red, with black tip.

Hab. Eastern Himalayas, Bengal, hills of Southern India, Burma, Siam, Cambodia, Malay Peninsula, Sumatra, Nias, Linga, Java, Lombok, Flores, Ombaai, Great Natuna Island, Borneo, Sulu Islands, Celebes, Ceram, Misol, Ternate, Philippines.

140. Dendrophis formosus Boie.

Dendrophis formosus, Blgr. Cat. Snakes, ii. p. 84.

Localities. This handsome snake is found on Penang Hill (one specimen in Mr. van Sommeren's collection, and one obtained by myself at 2200 feet), at Kuala Lumpor, Selangor (R. Hanitsch Rep. Raffles Libr. & Mus. 1897, p. 10), in Malacca (Brit Mus. Cat.), and in Singapore (R. Hanitsch, *op. cit.* p. 10, and S. Flower, P. Z. S. 1896, p. 883).

Colour (in life). A specimen 1422 mm. (4 feet 8 inches) long, caught on Penang Hill, 2nd April 1898, differed somewhat from the Singapore specimen described in P. Z. S. 1896, p. 883. Its colours were as follows :—

Top of head and enlarged row of vertebral shields rich red-brown; posterior border of each of these shields black. Upper parts of sides of body yellowish brown with red and green shades, each scale edged posteriorly with black; the skin between the scales is bright ultramarine-blue and shows distinctly on the sides of the neck. The back becomes less brown posteriorly and more yellow, finally turning to green on the tail. A broad black line from the muzzle passing through the eye to the nape, where it converges with but does not meet its fellow; the two run back parallel along the neck and soon disappear. Labials and under surface of head and neck bright greenish yellow. The lowest row of scales on each side of the body and the ventrals are bright grass-green. The lateral ventral keels and subcaudal shields are not outlined in black. Iris sea-green, with broad, black, horizontal line through it. Tongue red, black tip.

Hab. Malay Peninsula, Sumatra ("Sungei Mandan, Sumatra," R. Hanitsch, Rep. Raffles Libr. & Mus. 1897, p. 10), Java, Borneo.

141. Dendrelaphis caudolineatus (Gray).

Leptophis caudolineatus, Cantor, p. 85.
Dendrelaphis caudolineatus, Blgr. Cat. Snakes, ii. p. 89.

Recorded from Penang, Perak, Pahang, and Singapore (P. Z. S. 1896, p. 884).

Hab. Southern India, Mergui, Malay Peninsula, Sumatra, Nias, Sipora (Mentawei Islands), Natunas, Borneo, Philippines.

142. Simotes purpurascens (Schleg.).

Xenodon purpurascens, Cantor, p. 67.
Simotes catenifer, Stol. J. A. S. B. 1873, p. 121, pl. xi. fig. 3.
Simotes dennysi, Blanford, P. Z. S. 1881, p. 218, pl. xxi. fig. 1.
Simotes purpurascens, Blgr. Cat. Snakes, ii. p. 218.

Localities. Cantor's specimen from Penang Hill belongs to var. C, with 21 rows of scales.

Var. B, with 19 rows of scales, is recorded from Johore (Stol.), Pahang (Hanitsch, Rep. Raffles Libr. & Mus. 1897, p. 10), and Singapore (Brit. Mus. Cat. and Hanitsch, *op. cit.* p. 10). And I have obtained specimens from Penang Hill, at 2000 and 2500 feet elevation.

Colour (in life). Above dark brown, shading to *deep purple* on the sides, with about sixteen blotches along the back, each narrowly edged with black and reddish yellow. Head yellowish brown, with characteristic *Simotes* black symmetrical lines and small spots. Below *pinkish buff*. Many of the ventrals on the posterior part of the body and the anterior subcaudals are *purplish grey*.

Size. A Penang specimen measured 698 mm. in total length, but one from Sipora has been recorded of 950 mm. (3 feet, 1½ inches).

[Blgr. Ann. Mus. Genova (2) xiv. 1894, p. 616.]

Hab. South China, Cochinchina, Siam, Malay Peninsula, Sumatra, Nias, Sipora (Mentawei Islands), Java, Borneo.

143. Simotes cyclurus (Cantor).

Simotes bicatenatus, Stol. J. A. S. B. 1873, p. 114.
Simotes fasciolatus, Günth. Rept. Brit. Ind. p. 218, pl. xx. fig. B.
Simotes cochinchinensis, Günth. *l. c.* p. 219, pl. xx. fig. C.
Simotes cyclurus, Blg. Cat. Snakes, ii. p. 219.

There are specimens of var. E. mentioned in the British Museum Catalogue from Pachebone and the Laos Mountains, collected by M. Mouhot, and from Siam, presented by Mr. Newman.

I have observed five individuals caught in Bangkok, all belonging to var. E (scales in 21 rows). The largest, a male, was in total length 806 mm. The ventrals (numbered respectively 161, 162, 170, 170, and 174, and the subcaudals (which are double, with the exception specified) 43, 43, 45 (5th single), 53 and 41. One specimen had only 7 upper labials, the 4th entering the eye; the remainder had 8 upper labials, the 4th and 5th entering the eye.

One specimen had only one anterior temporal on one side.

This variety had no longitudinal lines or ventral spots, but about 17 dark transverse marks on the body and tail.

Hab. Bengal, Assam, Burma, South China, Cochinchina, Siam, Malay Peninsula, and Sumatra.

N.B.—SIMOTES VIOLACEUS (Cantor).

Simotes violaceus, Blgr. Cat. Snakes, ii. p. 222.

This species was obtained in Cambodia by M. Mouhot, so will probably be eventually found in Siam.

Hab. Bengal, Assam, Burma, Cambodia, South China.

144. SIMOTES OCTOLINEATUS (Schneid.)

Simotes octolineatus, Blgr. Cat. Snakes, ii. p. 224; S. Flower, P. Z. S. 1896, p. 884.

Recorded from Perak and Singapore.

Hab. Southern India, Malay Peninsula, Sumatra, Java, Borneo, Sulu Islands.

145. SIMOTES SIGNATUS Günther.

Simotes signatus, Blgr. Cat. Snakes, ii. p. 226.

Hab. Malay Peninsula (Singapore, Brit. Mus. Cat.), Sumatra, Java.

146. SIMOTES TÆNIATUS Günther.

Simotes tæniatus, Günth. Rept. Brit. Ind. p. 216, pl. xx. fig. A; Blgr. Cat. Snakes, ii. p. 227.

Siamese. "Ngu kow-pe-kow."

Localities. This species was discovered by M. Mouhot in Cambodia, and specimens from Siam have also reached the British Museum through Sir R. Schomburgk and Mr. Newman.

I obtained three individuals in Bangkok, and one near Bortong Kabin, up the Bangpakong river.

Habits. It feeds sometimes on the small frog *Microhyla ornata*.

Popular belief. The Siamese greatly dread this snake, considering it poisonous; and they say, though it cannot kill a man, its bite will render him dumb and speechless for the rest of his life.

Description. Two of these Siamese specimens had 17 rows of scales and two 19.

Colour (in life). Above olive-brown; a very narrow pale yellow vertebral line; on each side of this two very dark brown longitudinal lines, more or less broken up into a series of spots. Below bright coral-red, with, on either side, a row of triangular (apex pointing forward), semicircular, or squarish black spots; the under surface of the tail is immaculate bright coral-red. Between the brown of the upper parts and the red belly there is on either side a pale yellowish-white line. Head ornamented with characteristic *Simotes* marks, black with narrow pale yellow margins; under surface of head pale yellow.

Size. The largest specimen, a female from Bangkok, measured 330 mm. in total length.

Hab. Siam, Cambodia, Cochinchina.

147. Simotes cruentatus Günther.

Simotes cruentatus, Blgr. Cat. Snakes, ii. p. 231, pl. x. fig. 1.

Hab. Burma, Malay Peninsula (Stol. J. A. S. B. 1873, p. 121).

148. Ablabes tricolor (Schleg.).

Ablabes tricolor, Blgr. Cat. Snakes, ii. p. 281.

Found in Singapore by Mr. Ridley, and I got a specimen near the foot of Government Hill, Penang, in April 1898; it was a gentle snake, 468 mm. in total length.

Hab. Malay Peninsula, Sumatra, Borneo, Java.

149. Ablabes baliodirus (Boie).

Coronella baliodeira, Cantor, p. 66.

Ablabes baliodirus, Blgr. Cat. Snakes, ii. p. 283.

Cantor obtained two specimens from the hills of Penang; he says "it is of fierce habits." Mr. Ridley informs me he caught an *Ablabes baliodirus* on the top of Bujang Malacca, in Perak, in Sept. or Oct. 1898.

Hab. Malay Peninsula, Sumatra, Java, Natuna Islands, Borneo.

150. Ablabes longicauda Peters.

Ablabes longicauda, Blgr. Cat. Snakes, ii. p. 284.

Mr. C. Curtis, Superintendent of the Botanical Gardens, Penang, kindly gave me a specimen of this apparently rare snake, which he had found alive in a tin box in his house in the suburbs of Georgetown, Penang, during March or April 1898.

Hab. Malay Peninsula, Sumatra, Borneo.

151. Macrocalamus lateralis Günther.

Macrocalamus lateralis, Günth. Rept. Brit. Ind. p. 199, pl. xviii. fig. D; Blgr. Cat. Snakes, ii. p. 327.

This species was known from a single specimen (from General Hardwicke's East Indian collection) of doubtful locality. In April 1898 I was fortunate enough to get three individuals in the Larut Hills, Perak, at an elevation of 4400 feet.

Description. These three specimens agree with the description of *M. lateralis*, except that they possess a loreal shield, larger than deep; the type-specimen was apparently abnormal in having the loreals united with the præfrontals. The numbers of ventral and subcaudal shields were respectively 110 and 25, 110 and 27, 119 and 21.

Colour. Above rich dark reddish brown. Below, head and neck yellow, remainder bright coral-red, with a black latero-ventral line, clearly defined from the under surface of the neck to the tip of the tail on each side.

Labials and sides of neck yellow; a dark mark below eye and another behind it running obliquely to angle of mouth, and another similar but larger mark on the neck.

Size. These specimens were 193 mm., 212 mm., and 222 mm. in length.

Hab. Malay Peninsula.

152. Pseudorhabdium longiceps (Cantor).

Pseudorhabdium longiceps, Blgr. Cat. Snakes, ii. p. 329.

Recorded from Penang, Perak, and Singapore (P. Z. S. 1896, p. 886).

Hab. Malay Peninsula, Sumatra, Borneo, Celebes, Philippines.

153. Calamaria albiventer (Gray).

Calamaria linnæi, var., Cantor, p. 62..

Calamaria albiventer, Blgr. Cat. Snakes, ii. p. 336.

Of this very handsome snake I got a specimen, 279 mm. long, on Penang Hill, elevation 2000 feet, in March 1898. Its colours were very distinct and pretty.

Colour (in life). Above rich red-brown, with a pair of black-edged bright red vertebral lines; on each side a black-edged bluish-white line. Upper surface of head rich red-brown, finely speckled with black. Under surface of head rich lemon-yellow, which gradually shades into red on the neck; remainder of lower surface bright coral-red. A median black line under the tail.

Hab. Malay Peninsula.

154. Calamaria sumatrana Edeling.

Calamaria sumatrana, Blgr. Cat. Snakes, ii. p. 339.

Hab. Malay Peninsula (Singapore, W. L. Sclater, J. A. S. B. lx. 1891, p. 233) and Sumatra.

155. Calamaria leucocephala D. & B.

Calamaria lumbricoides, var. Cantor, p. 61.

Calamaria leucocephala, Blgr. Cat. Snakes, ii. p. 344.

Localities. Of this species, already recorded from Penang and Singapore, I obtained four specimens on Penang Hill, at elevations of about 2200 feet, and one at the mouth of the Batu Caves, near Kuala Lumpor, Selangor.

Habits. Two were found under a water-butt near a house; when disturbed they were fierce, striking and threatening with wide-opened mouth.

Colour (in life). These snakes are highly iridescent, and the line of demarcation between the dark upper and light lower parts is sharply defined: upper parts rich dark brown, purplish blue, or blackish; lower parts uniform white, buff, or very pale purplish blue, with a more or less indistinct zigzag median dark line under the tail. Head and neck bright lemon- or sulphur-yellow; on the top of the head there may be a symmetrical chestnut-coloured

mark which shows the bright yellow ground-colour through breaks in it and which does not join on to the dark upper parts, or else this mark may be a duller brown and larger and joined to the dark upper parts either narrowly (only in the vertebral line) or broadly.

Size. These five specimens varied from 265 to 293 mm. in total length.

Hab. Malay Peninsula, Sumatra, Java, Borneo.

156. Calamaria pavimentata D. & B.

Calamaria pavimentata, Blgr. Cat. Snakes, ii. p. 348; S. Flower, P. Z. S. 1896, p. 886.

M. Mouhot obtained a specimen of this snake in Siam and two in the Laos Mountains; these form the types of *Calamaria siamensis* Günth. In April 1898 I saw three more individuals from Penang Hill, one caught at about 800 feet, the others at about 2000 feet.

Hab. Burma, Siam, Cochinchina, Canton, Malay Peninsula, Java

Series **Opisthoglypha**.

Subfamily Homalopsinæ.

157. Hypsirhina indica (Gray).

Hypsirhina indica, Blgr. Cat. Snakes, iii. p. 4, pl. i. fig. 1.

The only known specimens, the types in the British Museum, are supposed to be from the Malay Peninsula.

Hab. Malay Peninsula?

158. Hypsirhina plumbea (Boie).

Hypsirhina plumbea, Blgr. Cat. Snakes, iii. p. 5.

Localities. The British Museum Catalogue mentions specimens from Pachebone, Siam (Mouhot), and from Penang (Cantor, Hardwicke). I obtained one near Taiping, Perak, in Dec. 1899; two near Tahkamen, Siam, in March 1897; and one near Alor Star, Kedah, in May 1898.

Habits. This snake apparently usually frequents freshwater-ponds or rivulets, but one I found under a stone some little distance from any water. When frightened, this species will bite fiercely at anything within reach.

Colour (in life). Above dark olive-brown, with small irregular, scattered, black spots, and in one specimen (from Kedah) a series of small black spots along the vertebral line of the neck, and a black spot on either side of the head above the angle of the mouth. Lips and whole lower surface bright chrome- or saffron-yellow. A dark brown zigzag median line under the tail.

Size. An individual from Tahkamen measured in total length 411 mm.

Hab. Burma, South China, Formosa, Hainan, Siam, Malay Peninsula, Java, Borneo, Celebes.

159. Hypsirhina jagorii Peters.

Hypsirhina jagorii, Blgr. Cat. Snakes, iii. p. 6.

The British Museum Catalogue mentions specimens from Siam received through M. Mouhot, Sir R. Schomburgk, and Mr. W. H. Newman. I obtained three in Bangkok and one at Tahkamen, the latter 635 mm. in total length.

Hab. Siam.

160. Hypsirhina enhydris (Schneid.).

Hypsirhina enhydris, Blgr. Cat. Snakes, iii. p. 6.

Siamese. "Ngu pla"="fish-snake," also applied to other species of Homalopsine snakes. This species has been recorded from Penang and Singapore. I obtained one specimen from near Alor Star in Kedah, and two in Bangkok, all belonging to var. A.

Colour (in life). The Kedah specimen was coloured as follows:—Above dark olive-brown, with indistinct black longitudinal lines and dark yellowish-olive dorso-lateral lines. Beneath pale yellow, with brown median ventral line, interrupted at the suture of each ventral shield, but uninterrupted and darker under the tail; on each side two brown ventro-lateral lines, the lower one much darker than the upper. Lips yellow.

Hab. India, Ceylon, Burma, South China, Cochinchina, Siam, Malay Peninsula, Borneo, Celebes.

161. Hypsirhina chinensis Gray.

Hypsirhina chinensis, Blgr. Cat. Snakes, iii. p. 8, pl. i. fig. 2.

Hab. China, Siam.

162. Hypsirhina bocourtii Jan.

Hypsirhina bocourtii, Blgr. Cat. Snakes, iii. p. 10.

Of this species, which was not previously recorded from the Malay Peninsula, I obtained an adult female, 854 mm. in total length, near Alor Kedah, in June 1898, who while in captivity brought forth seventeen young, alive. They were expelled at intervals of from ten to twenty minutes; between whiles she lay quite still, as if exhausted. The young came out head foremost, and were very lively as soon as born, perfectly "at home" in the water, swimming with ease and speed, but very awkward and sluggish on land; as soon as born they proceeded to change their skin. If picked up gently in the hand they were perfectly tame and quiet, but if surprised or pinched they bit with promptitude and vigour. Some new-born young of *Hypsirhina enhydris* which Cantor observed "refused fishes and aquatic insects" and eventually "expired from inanition"; but these young *H. bocourtii* fed freely on small frogs (*Rana* and *Microhyla*) when only a day or two old. The new-born young were about 220 mm. in length.

Colour (in life). ♀. Above very dark olive-brown, with dark yellow spots forming longitudinal lines, and more or less irregular, black-edged, dark yellow, narrow cross-bars. Lips dull yellow, each

scale black-edged. Beneath dull yellow, with vertical black bars interrupted on the ventral line except under the tail.

Hab. Siam, Malay Peninsula.

163. Hypsirhina sieboldii (Schleg.).

Hypsirhina sieboldii, Blgr. Cat. Snakes, iii. p. 11.

Hab. India, Burma, Malay Peninsula.

164. Homalopsis buccata (L.).

Homalopsis buccata, Blgr. Cat. Snakes, iii. p. 14 (skull fig.).

Siamese. "Ngu-pla"="fish-snake."

Localities. This snake has been recorded from Penang, Malacca, and Singapore (*vide* P. Z. S. 1896, p. 887). There are specimens from Perak in the Taiping Museum. I obtained two near Alor Star, Kedah, and about twelve specimens in Bangkok. A specimen in the Siamese Museum has two heads, side by side, each about equally perfectly developed.

Habits. H. buccata frequents the neighbourhood of water, in which it spends most of its time, and is an expert swimmer; "it feeds on fishes" (Cantor). When first caught it is very wild, but becomes quite tame in two or three days. I have kept several individuals in captivity, one for 14 months, when it was set at liberty on my leaving Siam. They appeared to have more intelligence than most snakes and appreciated being petted: when I came to the tank in which they were kept they would often of their own accord come to me and climb up my arm and remain round my neck or curled up in a pocket sometimes for hours till replaced in the tank, while they resented being touched by anyone else, which was remarkable, for other snakes that I have kept as pets never objected to being picked up by one anyone (who was used to handling snakes). Their food in captivity was frogs (*Rana limnocharis*).

Colour (in life). *Homalopsis buccata* is a remarkably pretty snake on account of the richness of its colours and the bold, handsome markings. The following description is of adult specimens from Bangkok:—

Above with broad transverse rich chocolate-brown cross-bands narrowly edged with black, separated by narrow pale greyish-brown interspaces; on the anterior part of the body these interspaces are alternately complete and broken up into three parts. An irregular spot on the centre of the back, and an acutely pointed wedge (pointing upward) on each side. Head pale brown, with a V-shaped dark brown mark on the snout, and a Λ-shaped mark on the top of the head, which on each side sometimes joins a dark brown line which begins in front of and passes through the eye and continues backward till it joins the first dark transverse band on the neck, which band has a prolongation forward in the vertebral line; a narrow brown black-edged line which reaches as far as the posterior branches of the Λ or sometimes enters the angle. Belly pure

Description.

No.	Locality.	Ventrals.	Sub-caudals.	Frontal	Loreal	Præ-oculars.	Post-oculars.	Sub-oculars.	Upper labials.	Length.	Scales.
										mm.	
1.	Bangkok.	176	93	divided.	entire.	1	2	3	11+12	340	about 40
2.	„	174	98	.....	.....	.....	.....	.....	.....	931	45
3.	„	174	96	divided.	entire.	1	2	3	.....	355	about 48
4.	„	171	106	.....	.....	.....	.....	.....	.....	536	41
5.	„	171	88	.....	entire.	1	2	3	12+12	690	
6.	„	171	88	divided.	entire.	1	2	3	12+12	540	about 45
7.	„	170	101	divided.	entire.	1	2	3	12+12	.....	45
8.	„	168	88	.....	.....	.....	.....	.....	.....	870	45
9.	Kedah.	161	77	.....	.....	.....	.....	.....	.....	285	38
10	„	158	79	.....	.....	.....	.....	.....	.....	260	41

white, with a series of small black spots along each side; the white belly gradually shades to a very rich lemon-yellow on each side, where the dark upper markings commence abruptly. The under surface of the tail is extensively marked with very dark brown. Young specimens from Kedah were marked as above, but the chocolate-brown cross-bands were darker, the interspaces bright yellow-ochre, and the whole lower surface lemon-yellow (*cf.* Cantor, p. 96).

Hab. Burma, Siam, Cambodia, Malay Peninsula, Sumatra, Java, Borneo.

165. Cerberus rhynchops (Schn.).

Cerberus rhynchops, Blgr. Cat. Snakes, iii. p. 16; S. Flower, P. Z. S. 1896, p. 888.

Localities. Recorded from Penang, Singapore, and Kuala Lumpor (R. Hanitsch, Rep. Raffles Libr. & Mus. 1897, p. 10). I have also obtained it from Johore Bahru, and from Alor Star, Kedah.

Habits. I can only confirm Cantor's remarks: "In the Malayan countries this species occurs in numbers in rivers, estuaries, and . . sea-coasts. It feeds upon fishes. It is of peaceful habits."

Hab. India, Ceylon, Burma, Lower Siam, Malay Peninsula, Sumatra, Engaño, Sipora (Mentawei Islands), Linga, Java, Flores, Sumba, Borneo (I obtained six specimens at Brunei), Celebes, N. Ceram, Philippines, and the Pelew Islands.

166. Fordonia leucobalia (Schleg.).

Homalopsis leucobalia, Cantor, p. 102.

Fordonia leucobalia, Blgr. Cat. Snakes, iii. p. 21.

Dr. Hanitsch obtained a specimen in Singapore in October 1898.

Hab. Rivers and coasts of Bengal, Burma, Malay Peninsula, Cochinchina, Nicobars, Java, Borneo, N. Ceram, New Guinea, North Australia.

167. Cantoria violacea Gir.

Cantoria violacea, Blgr. Cat. Snakes, iii. p. 23.

A specimen of this very rare snake was caught in the town of Singapore in August 1898 and sent to the Raffles Museum; Dr. Hanitsch very kindly submitted it to me for identification.

Ventral shields 284 (last divided). Anal divided. Subcaudals double, 52. Scales in 19 rows. Length 1220 mm.

The white transverse bands were very narrow.

Hab. Burma, Malay Peninsula, Borneo.

168. Hipistes hydrinus (Cantor).

Homalopsis hydrina, Cantor, p. 104, pl. xl. fig. 4.

Hipistes hydrinus, Blgr. Cat. Snakes, iii. p. 24.

Recorded from the coasts of Penang and Kedah, and from Singapore. The British Museum Catalogue mentions a specimen

from Bangkok. In the Kuala Lumpor Museum there is a specimen caught at Pulo Angsa, on the coast of Selangor.

Hab. Mouths of rivers and coasts of Pegu, Siam, and Malay Peninsula.

169. HERPETON TENTACULATUM Lacép.

Herpeton tentaculatum, Blgr. Cat. Snakes, iii. p. 25.

Siamese. "Ngu kra-dahng."

There is in the Siamese Museum a specimen of this singular snake labelled "Siam," and I obtained two more, caught in different parts of the town of Bangkok. The larger, about 630 mm. in length, had recently swallowed a fish when caught. In life the tentacles on the snout are soft, capable of expansion and retraction, and apparently very sensitive; the snake constantly moves them about, as if they performed the function of the antennæ of Arthropods. Why this particular reptile is thus furnished it is difficult, in our present state of knowledge, to imagine, seeing that other snakes use their tongue as a feeler. When the specimen is placed in spirits the tentacles retract and are not so conspicuous as they are in life.

Hab. Siam, Cochinchina.

Subfamily DIPSADOMORPHINÆ.

170. DIPSADOMORPHUS MULTIMACULATUS (Boie).

Dipsadomorphus multimaculatus, Blgr. Cat. Snakes, iii. p. 63.

Cantor mentions this species from the hills of Penang and the Peninsula, and M. Mouhot obtained a specimen at Pachebone, Siam. There is one in the Siamese Museum labelled "Siam," and I obtained another in Bangkok, 625 mm. in length, with 19 rows of scales.

Hab. Burma, South China, Siam, Malay Peninsula, Sumatra, Java, Celebes.

171. DIPSADOMORPHUS GOKOOL (Gray).

Dipsadomorphus gokool, Blgr. Cat. Snakes, iii. p. 64.

Hab. Bengal, Assam, Malay Peninsula.

172. DIPSADOMORPHUS DENDROPHILUS (Boie).

Dipsadomorphus dendrophilus, Blgr. Cat. Snakes, iii. p. 70.

"Ular Puntee" of the Malays of Kedah.

Localities. Var. B: Recorded from Kedah, Penang, Pangkor (Dindings), Ipoh district of Perak (R. Hanitsch, Rep. Raffles Libr. & Mus. 1897, p. 10), and Singapore.

Habits. A specimen I obtained from Kudat, British North Borneo, 1224 mm. in length, looked very distended, and we found in its stomach a recently swallowed Tree-Snake (*Chrysopelea ornata*), which was rather longer than itself; the swallowed prey was, as

usual, head foremost, but the tail and posterior part of the body was for about a third of its length doubled back on the remainder.

Colour (in life) of a specimen from Alor Star, Kedah :— Above intense shining black, below leaden blue-black. Fifty-five bright gamboge-yellow rings, much narrower than the black interspaces, and interrupted both above and below (except the last few on the tail). Labials and lower parts of head and neck gamboge; upper labials broadly, lower labials narrowly outlined in black.

Size. Total length 2310 mm. (P. Z. S. 1896, p. 889).

Hab. Lower Siam, Malay Peninsula, Sumatra, Java, Borneo, Celebes, Palawan, Philippines.

173. Dipsadomorphus jaspideus (D. & B.).

Dipsadomorphus jaspideus, Blgr. Cat. Snakes, iii. p. 73.

Hab. Malay Peninsula (Penang), Java, Borneo.

174. Dipsadomorphus drapiezii (Boie).

Dipsadomorphus drapiezii, Blgr. Cat. Snakes, iii. p. 74; S. Flower, P. Z. S. 1896, p. 889.

Hab. Malay Peninsula, Sumatra, Java, Borneo.

175. Dipsadomorphus cynodon (Boie).

Dipsadomorphus cynodon, Blgr. Cat. Snakes, iii. p. 77.

Localities. Penang Hills, 2500 feet (Van Sommeren collection), Province Wellesley (Cantor), Gunong Keledang in Perak (" light coloured, with yellow throat," Ridley), Kuala Lumpor (Selangor Museum), Malacca (var. B, British Museum), Johore Bahru (Wilson), and Singapore (vars. A. & B, Dennys and Ridley).

Habits. One was caught in Penang climbing in a coniferous tree. A specimen caught in Johore had swallowed a bird.

Size. A Johore specimen measured in total length 2448 mm. (or 8 feet); two Selangor specimens were of about the same size.

Hab. Assam, Burma, Malay Peninsula, Sipora (Mentawei Islands), Java?, Bali, Borneo, Philippines.

176. Psammodynastes pulverulentus (Boie).

Psammodynastes pulverulentus, Blgr. Cat. Snakes, iii. p. 172.

M. Mouhot obtained a specimen in the Laos Mountains. There is one in the Siamese Museum labelled " Siam," and I have seen another from Chantaboon.

Hab. Eastern Himalayas, Khasi and Assam Hills, Burma, Siam, Formosa, Malay Peninsula, Sumatra, Engaño, Java, Lombok, Flores, Great Natuna, Borneo, Celebes, Balabac, Palawan, Philippines.

177. Dryophis xanthozona Boie.

Dryophis xanthozona, Blgr. Cat. Snakes, iii. p. 180.

Hab. Malay Peninsula (Penang), Java.

178. Dryophis prasinus Boie.

Dryophis prasinus, Blgr. Cat. Snakes, iii. p. 180; S. Flower, P. Z. S. 1896, p. 890.

"Ular poocho" of the Malays of Kedah.

"Ngu kee-o pah-king-kop" of the Siamese (this term is also applied to *Dryophis mycterizans*).

I have obtained this elegant Tree-Snake from Alor Star, Kedah, from Penang (sea-level to 2500 feet), from Johore Bahru, and from Singapore; and seen specimens from Selangor and Pahang.

Habits. Cantor says of this species, "The very young ones are as gentle as those of a more advanced age are ferocious." However, a specimen 1314 mm. in length (that is to say an average-sized adult) we kept in captivity for three months was always most gentle and never attempted to escape, living at liberty in the drawing-room, usually among the leaves of a small palm which stood on a table, but sometimes going to the window to bask in the sun; and larger specimens even when first caught were perfectly gentle and tame.

Hab. Eastern Himalayas, Assam, Burma, Cambodia, Lower Siam, Malay Peninsula, Sumatra, Nias, Sipora (Mentawei Islands), Java, Lombok, Great Natuna, Borneo (I obtained a specimen at Kudat), Celebes, Ternate, Philippines.

179. Dryophis mycterizans (L.).

Dryophis mycterizans, Blgr. Cat. Snakes, iii. p. 182.

The British Museum Catalogue mentions a specimen from Siam. I have seen five from Bangkok, the largest about 1200 mm. in length; this snake was as gentle as *D. prasinus*.

Hab. India, Ceylon, Burma, Siam.

180. Dryophiops rubescens (Gray).

Chrysopelea rubescens, Stoliczka, J. A. S. B. xxxix. 1870, p. 195.
Dryophiops rubescens, Blgr. Cat. Snakes, iii. p. 194.

Hab. Siam, Malay Peninsula, Sumatra, Sipora (Mentawei Islands), Sirhassen (Natuna Islands), Borneo.

181. Chrysopelea ornata (Shaw).

Chrysopelea ornata, Blgr. Cat. Snakes, iii. p. 196.

The Ornate Tree-Snake is one of the most beautiful and most frequently seen reptiles in Siam and the Malay Peninsula.

Localities. Var. A: Cantor and Stoliczka record it from Penang, where I obtained two specimens at sea-level and saw a third in Mr. Van Sommeren's collection caught on the hill at an elevation of 2500 feet. It is also known from Kulim in Kedah (S. S. F.), Jelebu (Hanitsch), Kuala Lumpor (Van Sommeren coll.), and Singapore (Dennys, Hanitsch, Ridley, and S. S. F.).

Var. D: The British Museum Catalogue mentions two specimens from Siam presented by Bowring and one from the Laos Mountains collected by Mouhot. I obtained 19 individuals in Bangkok, 2 at

Ayuthia, 1 near Muok Lek in the Dong Phya Fai (elevation 900 feet), 1 at Pachim, 1 at Tahkamen, 1 at Kabin, 1 at Chantaboon, and 3 at Alor Star, Kedah, which is the most southern point where I have seen this variety. A little more to the south, at Kulim and Penang, it seems to be entirely replaced by var. A.

Description.

No.	Locality.	Ventrals.	Last ve tral.	Subcaudals.	Length.
Var. A.					mm.
1.	Singapore	226	?	?	635
2.	Penang	237	Divided.	136	747
3.	Kulim, ♂	238	?	?	911
4.	Singapore	228	Divided.	129	1235
Var. D.					
5.	Bangkok.....	227	Divided.	123	672
6.	Alor Star	228	,,	125	838
7.	,, ,, ...	226	,,	136	889
8.	Dong Phya Fai ...	218	,,	111	990
9.	Tahkamen	224	,,	123	1185
10.	Bangkok	227	,,	119	1198
11.	,, ...	230	,,	121	1243
12.	,, ♀	239	,,	118	1358
13.	,, ...	231	,,	74 (tip lost)	1393
14.	,, ...	231	,,	79 (tip lost)	1443
15.	,, ...	231	,,	79 (tip lost)	1459 (or 4′ 9″·25).

Habits. Chrysopelea ornata is the fiercest snake I have met. Under circumstances when most snakes, harmless and poisonous alike, would try to glide away quietly, this one will turn to attack the person who disturbs it, and will attempt to resist capture to the uttermost, striking and biting ferociously. I have not found the slightest effect on myself from its bite, but it is supposed to have a poisonous effect on the small animals on which it feeds, and, so far as my observations go, its bite has the effect of stupefying lizards to some extent (*cf.* Boulenger, Fauna Brit. Ind., Reptiles, pp. 223 and 277).

Individuals I have at various times tried to keep in captivity showed no signs of becoming tamer, and would always bite my hand when I put it in the vivarium, and being also an annoyance to the other inmates of the cage, I have only kept them for a few days at a time. One *Chrysopelea* bit itself so hard that its teeth became fixed in the side of its body.

This snake is diurnal in its habits, and may be seen moving about in the hottest midday sunshine. I remember only once seeing one on the ground, where it was moving from among some bushes to another clump. Usually it frequents trees, and about seven times

I have come across it in buildings, where it not unfrequently takes up its abode in the roof, finding doubtless a good supply of food there, as the lamps attract insects, the insects supply regular food to numerous geckoes, and the geckoes in turn support the snakes. Its cast-off skins (which are decidedly pretty, as, though no trace of the green colour remains, the black markings both on the head and dorsal shields are very distinct) hanging among the rafters often show that a house is tenanted by this snake. Once we came on a large specimen crawling round an old image of Buddha in a temple at Ayuthia; in the dim light it was a curious sight, not easily forgotten.

It is a very active and agile snake. Once I saw a small one, about $2\frac{1}{2}$ feet long, take a flying leap, from an upstairs window, downward and outward on to a branch of a tree and then crawl away among the foliage. The distance it had jumped was measured and found to be nearly 8 feet.

I have known it eat *Hemidactylus frenatus* and *Gecko verticillatus*; the latter may give battle to the snake for some hours before being finally swallowed. Cantor says its prey consists of lizards (*Geckonidæ*) and frogs, and mentions an instance of its eating *Ptychozoon homalocephalum*.

Chrysopelea ornata itself, however, sometimes falls a victim to other snakes; I have known individuals to have been swallowed by a *Zamenis mucosus* and by a *Dipsadomorphus dendrophilus*.

Cantor's experience of this species was quite different from mine, as he writes of its habits:—"It is but seldom seen in trees; it is more frequently found on the ground in the grass. It differs from the other species . . . in its gentleness. The young ones never attempt to bite, the adult but seldom." Günther (Rept. Brit. Ind. p. 299) quotes Cantor's account, adding to the "seldom seen in trees" the very true remark, "probably because it makes too rapid a retreat to be seen." Günther also mentions having "found geckoes in its stomach." Boulenger (Fauna Brit. Ind., Reptiles, p. 372) writes: "It feeds almost exclusively on geckoes, and is of gentle disposition."

Colour (in life). The general colour of "this most beautiful of all snakes" (*Günther*) is bright grass-green, with conspicuous black transverse marks on the top of the head.

Var. A: Bright grass-green, extensively marked with black, so that the back appears black with small green spots. Down the centre of the back is a series of tetraplous bright red spots (in a specimen from Penang Hill these were yellow). Each ventral and subcaudal shield is outlined in black. Head bright sulphur-yellow, boldly marked with black above. "Iris and tongue black" (*Cantor*).

Var. D: The whole body and tail, above and below, bright grass-green. Each scale on the back is bordered with black and has a black median stripe on it. There is a black spot on each side of each ventral scale (these may be absent anteriorly, then appear as small dots, and get larger posteriorly); the subcaudals are marked

with black both on the sides and underneath. Head above and below lemon-yellow, boldly and extensively marked with intense velvety black above, these marks mostly taking the form of transverse bands. The anterior portion of the neck is greenish yellow beneath. Iris golden or yellowish brown. Inside of mouth red. Tongue red, with black tips and sometimes two transverse dark marks on it further up.

Young of Var. D: Yellowish green, with about 118 black transverse bands, each about twice as broad as the green interspaces; the scales forming the interspaces and those on the sides are edged with black. Tail extensively marked with black, forming both transverse bands and longitudinal lines. Ventrals with a small black spot on each side above the lateral keel. Head marked as in adults.

Hab. Southern India, Ceylon, Bengal, Assam, Burma, Southern China, Siam, Malay Peninsula, Sumatra, Nias, Sipora (Mentawei Islands), Java, Borneo (I obtained a specimen from Kudat), Celebes, Sulu Islands, Philippines.

182. Chrysopelea chrysochlora (Reinw.).

Chrysopelea chrysochlora, Blgr. Cat. Snakes, iii. p. 138.

Recorded from Penang and Singapore. In September 1897 I obtained a specimen in the foothills of Gunong Pulai, Johore. Length 739 mm.

Colour (in life). Above olive-green, the back ornamented by very distinct bright yellow narrow transverse bands, not extending on to the sides; these yellow bands are bordered in front and behind with black, and the broad interspaces are bright red. These yellow, black, and red markings are most distinct on the anterior quarter of the body, and get fainter further back, but they are distinguishable right to the tip of the tail. The lower surface (between the lateral keels) is pale olive-green. The lateral keels of the ventral scales are outlined in black; and the part of the ventral scales above the lateral keel is bright lemon-yellow, each scale narrowly outlined with black. Thus between the darker green upper parts and the paler green belly is a bright yellow stripe along each side, which is continued on to the tail, where it gradually disappears. The upper surface of the head is olive-brown, with a red chevron-like cross-band (with point forward) behind the eyes; behind this again there is a much smaller chevron pointing backward, and on the back of the head a cross-band, broad in the centre and narrowing to each side; these three red marks are outlined in black. There is a black line on either side of the head, running from below the nostril, through the lower part of the eye, to the angle of the mouth, dividing the dark upper parts of the head from the lemon-yellow lips and lower surface.

Hab. Burma, Malay Peninsula, Sumatra, Nias, Banka, Borneo, Natuna Islands.

Series **Proteroglypha.**

Subfamily Hydrophiinæ.

Sea-snakes abound in the Straits of Malacca, in the China Sea, and in the Gulf of Siam; those which frequent estuaries are caught from time to time in fishing-stakes, but we know very little of those which frequent the open sea. I find in my diary frequent references to seeing them; two such will suffice here:—"21.9.97. Off Borneo, approaching Labuan, in the afternoon from about 4 to 6 p.m. we saw many scores of sea-snakes. Every few minutes the steamer passed one, and sometimes there were two or three within a few yards of each other; most were from one to two feet long, the largest perhaps as much as four feet. Judging from the colours, they were several different species. The extreme brilliancy of the colouring of some was very beautiful and remarkable; some were almost entirely rich-golden yellow, others lemon-yellow; most had dark transverse bands of black or brown; some were green, banded alternately darker and lighter." "3.5.98. Gulf of Siam. During the afternoon saw six sea-snakes, all apparently of the same species; size small; colour yellowish olive. They did not seem aware of the steamer's approach till her bows were a few yards from them; then the snakes tried hard to swim away, wriggling on the surface, partly in and partly out of the water, but were of course quickly overtaken, and as soon as the spray from the steamer's fore-foot reached them they dived vertically downward."

183. Hydrus platurus (L.).

Hydrus bicolor, Cantor, p. 135 (also *pelamis*, Cantor, p. 136?).
Pelamis bicolor, Blanford, P. Z. S. 1881, p. 215.
Hydrus platurus, Blgr. Cat. Snakes, iii. p. 267.

Cantor obtained "a single individual taken in a fishing-stake off the coast of Province Wellesley," and it is recorded from Singapore by Blanford and by Hanitsch (Rep. Raffles Libr. & Mus. 1897, p. 10). The British Museum Catalogue mentions specimens from "Siam" and the "Gulf of Siam."

Hab. Obok, Red Sea (Blgr. A. M. N. H. April 1897, p. 468), Indian Ocean, Straits of Malacca, the Tropical and Subtropical Pacific from the Loo Choo Islands to Australia and New Zealand, and from the Malay Archipelago to Central America.

184. Hydrophis cærulescens (Shaw).

Hydrophis cærulescens, Blgr. Cat. Snakes, iii. p. 275.
Hab. Bombay Coast, Bay of Bengal, Straits of Malacca.

185. Hydrophis nigrocinctus Daud.

Hydrophis nigrocinctus, Blgr. Cat. Snakes, iii. p. 277.
Hab. Bay of Bengal and Straits of Malacca.

186. Hydrophis gracilis (Shaw).

Hydrophis gracilis, Blgr. Cat. Snakes, iii. p. 280.

Recorded from Singapore, for the first time, by Dr. Hanitsch (Rep. Raffles Libr. & Mus. 1897, p. 10).

Hab. Coasts of Persia, India, and Burma; Malay Archipelago.

187. Hydrophis cantoris Günth.

Hydrus gracilis, part., Cantor, p. 130.
Hydrophis cantoris, Blgr. Cat. Snakes, iii. p. 281, pl. xiv.

Hab. Bay of Bengal and Straits of Malacca.

188. Hydrophis fasciatus (Schn.).

Hydrophis atriceps, Günther, Rept. Brit. Ind. p. 371, pl. xxv. fig. I.
Hydrophis fasciatus, Blgr. Cat. Snakes, iii. p. 281.

The British Museum contains a Penang specimen (from Cantor), and two said to be from Siam.

Hab. From the coasts of India to China and New Guinea.

189. Hydrophis torquatus Günther.

Hydrus nigrocinctus, Cantor, p. 128.
Hydrophis torquatus, Blgr. Cat. Snakes, iii. p. 283.

Cantor obtained five specimens during four years in the Straits of Malacca.

Hab. Bay of Bengal and Straits of Malacca.

190. Hydrophis obscurus (Daud.).

Hydrophis obscurus, Blgr. Cat. Snakes, iii. p. 284.

I have seen a specimen, 807 mm. in length, from the Gulf of Siam.

Hab. Bay of Bengal, Malay Archipelago, Gulf of Siam.

191. Distira stokesii (Gray).

Distira stokesii, Blgr. Cat. Snakes, iii. p. 288 (skull fig. p. 286).

Hab. Mekran Coast, Indian Ocean, Straits of Malacca (Singapore), North coast of Australia.

192. Distira ornata (Gray).

Distira ornata, Blgr. Cat. Snakes, iii. p. 290.

The British Museum Catalogue records a specimen from Siam.

Hab. From the mouth of the Persian Gulf and the coasts of India and Ceylon to New Guinea and North Australia.

193. Distira brugmansii (Boie).

Hydrus striatus, part., Cantor, p. 126.
Distira robusta, Blgr. Fauna Ind., Rept. p. 409.
Distira brugmansii, Blgr. Cat. Snakes, iii. p. 292.

Hab. Persian Gulf, coasts of India and Burma, Straits of Malacca (Penang), and the Malay Archipelago.

194. Distira cyanocincta (Daud.).

Hydrus striatus, part., Cantor, p. 126.
Distira cyanocincta, Blgr. Cat. Snakes, iii. p. 294.

Hab. From the Persian Gulf and the coasts of India to China, Japan, and Papuasia.

195. Distira jerdonii (Gray).

Hydrus nigrocinctus, var., Cantor, p. 129, pl. xl. fig. 8.
Distira jerdonii, Blgr. Cat. Snakes, iii. p. 299.

This is apparently a very rare species. Cantor obtained "a single individual, captured in a fishing-stake off Pinang," during his four years in the Straits of Malacca, and it does not seem to have been observed again since his time.

Hab. Bay of Bengal, Straits of Malacca, Borneo.

196. Enhydris hardwickii (Gray).

Hydrus pelamidoides, Cantor, p. 133.
Enhydris hardwickii, Blgr. Cat. Snakes, iii. p. 301.

Cantor obtained four specimens during four years in the Straits of Malacca. It is recorded from "Bangkok" (Hanitsch, Rep. Raffles Libr. & Mus. 1897, p. 10).

Hab. Bay of Bengal, Straits of Malacca, China Sea, and sea of the Malay Archipelago as far east as New Guinea.

197. Enhydrina velakadien (Boie).

Hydrus schistosus, Cantor, p. 132.
Enhydrina velakadien, Blgr. Cat. Snakes, iii. p. 302.

Siamese. "Ngu chai-tong."

Cantor writes of this species:—"Incredibly numerous in the Bay of Bengal, at Pinang and Singapore, far more so than any known terrestrial serpent. The fishing-nets are hardly ever worked but one or more are among the contents." The British Museum has a specimen from Siam presented by W. H. Newman, Esq., and there is one in the Siamese Museum from the Gulf of Siam, 933 mm. in total length.

Hab. From the Persian Gulf, along the coasts of India, Burma, Siam, the Malay Peninsula and Archipelago, to Papuasia.

198. Aipysurus eydouxi (Gray).

Aipysurus eydouxii, Blgr. Cat. Snakes, iii. p. 304.
Aipysurus eydouxi, S. Flower, P. Z. S. 1896, p. 893.

The occurrence of this species on the coast of the Malay Peninsula was doubtful, but we now know it to be found at Singapore, as I obtained a specimen caught on some flooded land near the Serangoon Road in 1896. Length about 500 mm.

Hab. Coasts of Singapore, Java, and the Philippines.

199. Platurus laticaudatus (L.).

Platurus fischeri, Günth. Rept. Brit. Ind. p. 356, pl. xxv. fig. A.

Platurus laticaudatus, Blgr. Fauna Ind., Rept. p. 395 (head fig. p. 394); Blgr. Cat. Snakes, iii. p. 307.

The British Museum contains a specimen from Chantaboon, Siam.

Hab. Bay of Bengal, Gulf of Siam, Loo Choo Islands, New Guinea, and the Western South Pacific (Fiji, New Hebrides, Australia, and Tasmania).

200. Platurus colubrinus (Schn.).

Laticauda scutata, Cantor, p. 125.

Platurus colubrinus, Blgr. Cat. Snakes, p. 308 (skull fig. p. 307).

Recorded from Penang and Singapore; Cantor obtained only three specimens in four years, so it is apparently not numerous.

Hab. Bay of Bengal, Engaño, Straits of Malacca, Malay Archipelago, and the Western South Pacific (Fiji, New Hebrides, Australia, and New Zealand).

Subfamily Elapinæ.

201. Bungarus fasciatus (Schn.).

Bungarus fasciatus, Blgr. Cat. Snakes, iii. p. 366.

Localities. This fine snake, coloured yellow and black in alternate rings, is popularly confounded with the harmless *Dipsadomorphus dendrophilus*, so may not be as numerous in the Malay countries as some suppose; it is known to occur in the following localities:—Penang (Cantor and Stoliczka), Province Wellesley (Cantor and Van Sommeren coll.), Kuala Lumpor (Selangor Museum), Malacca (Hanitsch, Rep. Raffles Libr. & Mus. 1897, p. 10), Johore (Kelsall, *vide* post.), and Singapore (Blanford). Two specimens supposed to have been caught in Bangkok are in the Siamese Museum; and the British Museum Catalogue mentions two specimens from Siam, presented by Sir R. Schomburgk and W. H. Newman, Esq.

H. J. Kelsall, J. S. B. Royal Asiatic Soc. no. 26, 1894, p. 12, when on the Batu Pahat Sembrong in Johore, "saw a fine specimen of the banded viper (*Bungarus fasciatus*) in a hole in the bank. On an attempt being made to kill it, it took to the water and by diving escaped."

Size. A specimen caught in Kuala Lumpor, Selangor, measured in total length 1270 mm. (or 4 feet 2 inches).

Hab. India, Assam, Burma, Southern China, Siam, Malay Peninsula, Sumatra, Java.

202. Bungarus candidus (L.).

Bungarus cæruleus, Blgr. Fauna Ind., Rept. p. 388.

Bungarus candidus, Cantor, p. 113; Blgr. Cat. Snakes, iii. p. 368 (skull fig. p. 365).

Localities. The Krait, supposed to be one of the most deadly of

poisonous snakes, is fortunately of very rare occurrence in the Malay Peninsula. Cantor obtained a specimen 857 mm. in length "killed by Captain Congalton near Keddah." On the 1st June, 1898, I obtained a specimen near Alor Star, Kedah, 775 mm. in length. Imagining it to be the harmless snake *Lycodon subcinctus*, I carried it in my hand upstairs to keep in my room, but fortunately noticed it was a Krait and killed it before it had bitten anyone. A few days later a servant came upstairs and placed on the table a snake he had come across in the garden and thought I might like: it was a live Cobra (*Naia tripudians*); in this case also luckily the snake had not bitten anyone.

Description (notes on). Alor Star specimen mentioned above: temporals 1+2; three lower labials in contact with the anterior chin-shields, which are larger than the posterior. Scales in 15 rows. Ventrals 220. Anal? Subcaudals single, 40 (tip broken), except the 24th and 25th, which are double.

Colour (in life). Above purplish black, with 28 double white cross-bands. Skin between scales whitish. Lips, chin, throat, and underneath of body pale yellow, immaculate. Underneath of tail purplish brown, with irregular pale yellow cross-bars.

Hab. India, Burma, Southern China, Formosa, Hainan, Indo-China, Lower Siam (Malay Peninsula), Java, Celebes.

203. Bungarus flaviceps Reinh.

Bungarus flaviceps, Blgr. Cat. Snakes, iii. p. 371; S. Flower, P. Z. S. 1896, p. 894.

Hab. Tenasserim, Cochinchina, Malay Peninsula, Sumatra, Nias, Java, and Borneo.

204. Naia tripudians Merr.

Naia tripudians, Blgr. Cat. Snakes, iii. p. 380 (skull fig .p. 372); S. Flower, P. Z. S. 1896, p. 894.

Siamese. "Ngu how."

"Toodong slà" of the Malays of Kedah.

"Ular mata-ári" of the Malays, according to Cantor. Ular= snake; mata-ári=sun (lit. eye of the day).

Localities. The Cobra is apparently not so numerous in the Malay Peninsula as in parts of India and in Siam; the British Museum Catalogue records var. A.*a* from Penang, var. C.*b* from Siam and Kedah, and var. D from Penang and Singapore. Mr. Van Sommeren's collection contains a Cobra from Kuala Lumpor, Selangor, and three caught on Penang Hill; these are of small size, light brown in colour, and have no marks on the hood. I obtained a Cobra, in lalang grass, near Taiping, Perak, which does not agree with any of the described varieties. One caught near Alor Star, Kedah, belongs to var. C.*b*, as do also nine individuals observed by me from the neighbourhood of Bangkok, where Cobras frequently attain a large size, as the following table shows.

Description (notes on).

No.	Locality.	Ventrals.	Sub-caudals.	Neck-scales.	Body-scales.	Length.	Colour variety.	Remarks.
						mm.		
1.	Bangkok.	185	53	31	21	400	C.*b.*	1 præ- & 3 postoculars.
2.	„	186	?	29	21	1619	„	
3.	„	185	?	30	21	1683	„	
4.	„	178	55	?	21	1803	„	
5.	„	181	55	?	21	1830 (or 6 feet)	„	
6.	„ ♀	184	51	28	21	1830 (or 6 feet)	„	3 postoculars, temporals 2 + 3.
7.	Alor Star, Kedah.	183	56	28	21	432	„	
8.	Taiping, Perak.	171	?	27	19	1441	?	

Habits. A female killed in Bangkok on the 17th January, 1898, contained nineteen eggs, measuring, greater axis 53 mm., lesser axis 34 mm. The Siamese assured me they sometimes lose buffaloes through the Cobras which frequent the fields where the cattle graze, the bite of the snake being sufficiently poisonous to kill such large animals.

Colour (in life). Siamese Cobras.—Above varying from uniform olive-brown to deep black, with brownish head. Below grey or bluish black. Lips, chin, and throat bright yellow. "Hood" ornamented with (usually) a very well-defined bright yellow O, edged both inside and out with black. Under surface of "hood" yellow, with a black spot on each side. Behind the "hood" a yellow collar, broad beneath, and above mottled with brown or dividing into two very narrow lines, the anterior straight across the neck, the posterior chevron-shaped, pointing backward.

Perak Cobra.—Above uniform pale yellowish brown, no markings on "hood," which when expanded looks very yellow, owing to the pale yellow skin showing between the scales. Underneath the neck are a short median series of indistinct brownish spots, and three pairs of brownish spots. Remainder of lower surface pale yellow.

Hab. Southern Continental Asia from Transcaspia to China, Siam, and the Malay Peninsula, and the islands of Ceylon, Sumatra, Java, Flores, Ombaai, Borneo (1 obtained Var. F at Kudat), Palawan, Philippines, Hainan.

205. Naia bungarus Schl.

Hamadryas ophiophagus, Cantor, p. 116.
Naia bungarus, Blgr. Cat. Snakes, iii. p. 386.
"Toodong sindok" of the Malays of Kedah.
"Ular teedong selar" of the Malays of Perak (according to L. Wray).

Localities. The Hamadryad is known to occur in the following places:—Hills of Penang, and Province Wellesley (Cantor); Larut, Perak (Perak Museum); Kuala Lumpor (Selangor Museum and Van Sommeren coll.); Singapore (Dennys and Ridley), Siam (Brit. Mus. Cat., two specimens presented by W. H. Newman, Esq.).

Size. Two skins of Hamadryads killed near Taiping, Perak, now in the possession of Lt.-Col. Froude Walker, C.M.G., measure respectively about 3760 and 4040 mm.; another specimen killed within four miles of Taiping, now in the Museum there, measures about 4500 mm.; and one in the Kuala Lumpor Museum, which was killed in the neighbourhood, is said to be 15 feet long (4572 mm.).

Hab. India, Burma, Southern China, Cochinchina, Siam, Malay Peninsula, Borneo, Celebes, Philippines.

206. Callophis gracilis Gray.

Elaps nigromaculatus, Cantor, p. 108, pl. xl. fig. 7.
Callophis gracilis, Blgr. Cat. Snakes, iii. p. 396.

I obtained one specimen in Singapore, October 1897.

Hab. Malay Peninsula and Sumatra.

207. Callophis maculiceps Günth.

Elaps melanurus (non Shaw), Cantor, p. 106, pl. xl. fig. 6.
Callophis maculiceps, Blgr. Cat. Snakes, iii. p. 397.

Hab. Burma, Cochinchina, Malay Peninsula (Prov. Wellesley).

208. Doliophis bivirgatus (Boie).

Doliophis bivirgatus, Blgr. Cat. Snakes, iii. p. 400; S. Flower, P. Z. S. 1896, p. 895.

Localities. Var. A, *bivirgatus*: Penang (Brit. Mus.).

Var. B, *tetratænia*: Singapore (Brit. Mus.).

Var. C, *flaviceps*: Penang Hills (Cantor, Van Sommeren, & S. S. F.); Penang Plains (Van Sommeren); Kulim, Kedah (Mitchell); Taiping, Perak (Perak Museum); Larut Hills, 4500 feet elevation (Perak Museum); Selangor (Raffles Museum); Malacca (Cantor); Johore Bahru (Wilson); Gunong Pulai, Johore (S. S. F.); Singapore (Brit. Mus., Girard, & S. S. F.).

Colour (in life). Var. C: Head bright coral-red, slightly darker red on the occiput. Border of scales which enter eye black, making a narrow black ring round eye. Body, rich dark blue, highly iridescent, with on each side from neck to vent a line of light "Cambridge" blue, 2 scales wide; this light blue is separated from the red belly by a narrower line of dark blue. The lower surface is bright coral-red. The tail is bright coral-red, with a dorsal line of dark purplish blue, which commences the whole breadth of the tail and gets narrower towards the tip.

Size. A specimen I caught on Gunong Pulai, Johore, belonging to Var. C, measured 1708 mm. in total length; and one killed at

Sandakan, British North Borneo, given me by Mr. G. A. Altman of that town, belonging to var. B, measured 1811 mm. (or 5 feet 11 inches).

Hab. Burma, Cochinchina, Lower Siam, Malay Peninsula, Sumatra, Nias, Java, Borneo.

209. Doliophis intestinalis (Laur.)

Doliophis intestinalis, Blgr. Cat. Snakes, iii. p. 401.

Of the Malay poisonous snakes this is perhaps the most frequently met with. I have come across it both in bright daylight and after dark, crawling slowly about; it is easily caught. What the effect of its poison on a man would be is, I believe, quite unknown; but from its small mouth and want of activity it can hardly be looked on as a dangerous species. Cantor found that fowls bitten by this snake died from within an hour and twenty minutes to upwards of three hours. "The serpents, which all had forcibly to be made to inflict the wounds, shortly afterwards expired, apparently from the violence to which they had been subjected."

Localities. Var. B, *annectens*: Pahang (Raffles Museum); Singapore (Ridley).

Var. C, *lineata*: Penang Hills (Cantor, Van Sommeren, & S.S.F.); Province Wellesley (S.S.F.); Taiping, Perak (Perak Museum); Pangkor, Dindings (Perak Museum); Kuala Lumpor, Selangor (S.S.F.); Malacca (Cantor); Singapore (Cantor & S.S.F.).

Var. D, *trilineatus*: Province Wellesley (S.S.F.).

Colour (in life). Var. C: Above rich reddish or purplish brown, with a narrow scarlet black-edged vertebral line; along each side a pale yellow line, above broadly edged with black, below edged with black spots on a somewhat vandyked dark-brown line. Underneath pale yellow, with black cross-bars generally about half the width of the yellow interspaces. Upper surface of head may be dull vermilion. Labials yellow, spotted with black. Under surface of tail bright coral-red, with three black cross-bars.

Size. The largest specimens I obtained in 1898 were only about 465 mm. in length.

Hab. Burma, Malay Peninsula, Sumatra, Nias, Java, Borneo, Celebes.

Family Amblycephalidæ.

210. Haplopeltura boa (Boie).

Dipsas boa, Cantor, p. 78, pl. xl. fig. 3.

Haplopeltura boa, Blgr. Cat. Snakes, iii. p. 439.

Cantor obtained two individuals from the Penang Hills, and recently Mr. A. G. B. van Sommeren found two at the same time in holes in the ground on Government Hill, Penang, at 2500 feet elevation. The snakes of this family are apparently very rare in he Straits Settlements; with the above exceptions, they are not

represented in any of the local museums, nor have I come across a single individual myself.

Hab. Malay Peninsula, Java, Borneo, Balabac, Palawan, Philippines, Moluccas.

211. Amblycephalus lævis Boie.

Amblycephalus lævis, Blgr. Cat. Snakes, iii. p. 441.

Hab. Malay Peninsula?; Java, Natuna Islands, Borneo.

212. Amblycephalus malaccanus (Peters).

Amblycephalus malaccanus, Blgr. Cat. Snakes, iii. p. 442.

Hab. Malay Peninsula, Sumatra, Borneo.

213. Amblycephalus moellendorffii (Boettg.).

Amblycephalus moellendorffii Blgr. Cat. Snakes, iii. p. 443.

The British Museum Catalogue records a specimen collected by M. Mouhot in the mountains of Laos.

Hab. Tenasserim, Siam, Cochinchina, Hainan, South China.

214. Amblycephalus margaritophorus (Jan).

Amblycephalus margaritophorus, Blgr. Cat. Snakes, iii. p. 445.

Hab. Siam.

Family Viperidæ.

Subfamily Viperinæ.

215. Vipera russellii (Shaw).

Vipera russellii, Blgr. Cat. Snakes, iii. p. 490.

Hab. "India, Ceylon, Burma, Siam; Sumatra and Java.

Subfamily Crotalinæ.

216. Ancistrodon blomhoffii (Boie).

Ancistrodon blomhoffii, Blgr. Cat. Snakes, iii. p. 525.

Hab. "Eastern Siberia, Mongolia, China, Japan, Siam."

N.B.—Ancistrodon rhodostoma (Boie).

Ancistrodon rhodostoma, Blgr. Cat. Snakes, iii. p. 527.

Hab. "Java; Siam (?)."

217. Lachesis monticola (Günther).

Trimeresurus convictus, Stoliczka, J. A. S. B. 1870, p. 224, pl. xii. fig. 1.

Lachesis monticola, Blgr. Cat. Snakes, iii. p. 548.

Hab. Tibet, Himalayas, Assam, Burma, Malay Peninsula, Sumatra.

218. Lachesis purpureomaculatus (Gray).

Lachesis purpureomaculatus, Blgr. Cat. Snakes, iii. p. 553 S. Flower, P. Z. S. 1896, p. 896.

Dr. Hanitsch records this snake from Singapore, Pulo Brani, and Pulo Samba (Rep. Raffles Mus. & Libr. 1897, p. 10).

Hab. Himalayas, Bengal, Assam, Burma, Andamans, Nicobars, Malay Peninsula, Sumatra.

219. Lachesis gramineus (Shaw).

Lachesis gramineus, Blgr. Cat. Snakes, iii. p. 554; S. Flower, P. Z. S. 1896, p. 896.

Siamese. "Ngu kheeyo"="green snake."

"Ular daun" of the Malays (*apud* Cantor).

Localities. This Green Viper is the poisonous snake most often seen about Bangkok, where it is fairly numerous; about ten individuals were caught in my garden alone in about twelve months. The British Museum Catalogue mentions specimens obtained at Pachebone and in the Laos Mountains by M. Mouhot. It is apparently the commonest *Lachesis* in Penang (Cantor, Stoliczka, Van Sommeren, and S. S. F. [at 2000 ft. elevation]) and Province Wellesley (Stoliczka and S. S. F.), but at Singapore (from which place it is recorded by Cantor, Blanford, and Hanitsch) it is rare, its place being taken by *L. wagleri*.

Description (notes on).

No.	Locality.	Ventrals.	Sub-caudals.	Scales.	Length.	Upper head-scales, between supraoculars.	Inter-nasals.	Upper labials.
					mm.			
1.	Bangkok.	164	70	19	453	12	in contact	9+9
2.	„	162	54	21	540			
3.	„	165	69	21	470			
4.	„	166	60	21	317	9	in contact	10+10
5.	„	166	60	21	701 (2′ 3½″).	smooth, 9	„ „	9+9
6.	„	166	72	21	325	„ 9	„ „	
7.	„	173	57	21	658	10	„ „	10+12
8.	„	175	52	21	387	9	„ „	9+10

Colour (in life). Bangkok specimen.—Above usually very bright, grass-green, sometimes rich dark green with ill-defined blackish cross-bands. A light yellowish line is sometimes present along each side. Lower parts bright electric blue, pale bluish green, or bright grass-green. Upper part and end of tail dull red. Sides of head from below the eye to the corner of mouth blue. Labials bright grass-green or blue. Lower surface of head in some individuals white, with shades of cobalt-blue. The eye is very